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BEST PRACTICES FOR

Field Days

A Program Planning Guidebook for Organizers, Presenters, Teachers and Volunteers

Brought to you by the Environmental Science Education Work Group

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FIELD DAYS AS ENVIRONMENTAL EDUCATION

"The preparation of world problem solvers, actually universal problem solvers" has been deemed the "proper role of environmental education (EE)" (Engleson & Yockers, 1994). For nearly thirty years, experts and practitioners worldwide have defined basic aims of EE as building in people:

1. Awareness, sensitivity and understanding of natural and social interrelations;
2. The skills and mindset to embrace and enact global environmental sustainability.

According to the North American Association for Environmental Education (NAAEE), effective EE should:

- Consider the total environment.
- Integrate scientific and social sources of understanding.
- Stress critical-thinking and problem-solving skills.
- Develop local to global and short- to long-term environmental awareness.
- Emphasize the role of ethics and values in shaping environmental attitudes and actions.
- Enable and stress the need for active participation in creating a sustainable future.
- Encourage life-long learning (cited in Minnesota Office of Environmental Assistance, 2000).

While environmental education does not pronounce a singular "soapbox" ethic, it is "rooted in the belief that humans can live compatibly with nature and act equitably toward one another" (NAAEE, 2000). Essentially, EE is foremost an education of process, focused on helping people vigilantly identify, analyze, and continually adapt to their future environments in ways that we may not yet even imagine.

Field days are one approach to environmental

For Anna, a field trip to the conservation field day can be summed up in one bright memory. "The guy from the Department of Natural Resources picked me, and handed me the net. From the edge of the pond, I dipped the net beneath the water, and swished until I felt the vibration, the fight of a fish. I pulled out a walleye, eyes cloudy like they were filled with milk. I'd never seen one before; it felt so strong." This memory rests in her mind like the strand from which a strong web is weaved. "Protecting your lakes keeps fish healthy!" was the theme of this year's event, and lessons about protecting fish habitat string together in Anna's mind. Sparked by her memory, she knits together bits about how spreading too much fertilizer contributes to green murky water, storm sewers dump directly into lakes, and washing boats can slow the spread of exotic species. "We studied fish and water pollution at school. But catching that walleye made it more real somehow. It was so strong, fighting like it wanted to be alive," she continued. "It made me care more about doing something. It made what I learned more important."

education programming. Recently, the NAAEE (2004) defined *an environmental education program* to mean "an integrated sequence of planned educational experiences intended to reach a particular set of objectives." These programs can be long or short and serve a few or many students. Educators employ a number of different approaches or ways of doing environmental education programs, such as service-learning, environmental issues analysis, trail hikes, and residential and nature center visits. When used to meet appropriate objectives, each has its own unique strengths and merits. Field days provide effective means of bridging classroom learning with real-world issues or problems. As an approach, these events stress learning through applied experience, contact with professional experts, and visiting multiple strands of an issue or problem.

Field Days are typically multi-station field trip events in which students and teachers rotate through multiple presentations on environmental topics. They can happen indoors or outdoors for audiences of tens to thousands of students. Four players tend to preside over design and delivery of field days:

- Organizers—the people ultimately responsible for organizing and coordinating the event. Often a representative from the Extension or Soil and Water Conservation Districts.
- Presenters—the people who deliver presentations for students at event stations. Often natural resource professionals from the University Extension, Soil and Water Conservation Districts, Departments of Natural Resources, and other environmental agencies.
- Teachers—the people from classrooms, scout, 4-H, and other organizations who bring students to these events and hold ultimate responsibility for ensuring the integration of event content into students' studies.
- Adult volunteers—the people associated with teachers, organizers, or presenters who volunteer time to supervise students, deliver presentations, provide lunches, etc.

Like many field trips, well-designed field days facilitate creation of memories that may help students better understand information learned. These memories often add a positive twist to learning. But field days are also strong in their flexibility. Unlike other EE approaches, they can happen almost anywhere and serve a wide range of audiences. Whether you are designing education programming around agricultural, built, or natural environments, field days may be an appropriate method if you meet all or some of the following criteria:

1. Your focus is a complex issue or problem with multiple sides;
2. You know groups have limited time and/or budget to study the issue/problem;
3. You know students would benefit from real-world application of lessons learned in the classroom;
4. You need an introductory or capstone experience to weave together lessons learned;
5. You would like to introduce students to professionals working in areas they study;
6. You need to serve hundreds or thousands of students;
7. You know a perfect location for students to directly experience information studied in class.

EXPANDING FIELD DAYS

Organizers and presenters of field days are facing challenging but opportune times. According to business author John Palmer (2000), the competition to reach students is steep. He notes: "More than 12,000 companies in the U.S. spend about $10 billion a year marketing

to school teachers in grades K-12." According to Bob Stimolo, president of the School Marketing Research Institute, Haddam, CT., "You have the gamut from small mom-and-pop organizations to huge corporations trying to get into the classroom." In addition, the funding base has shrunk over the past few years for many of the organizations typically involved in field day events, resulting in staff and budget cuts. Baby-boomer teachers who traditionally participate in field days may soon be retiring. The rising costs of transportation and changing education policy are making field trips less reasonable.

A light shines, however, at the end of this tunnel. Due to the flexibility of the EE approach in *Best Practices for Field Days*, field days may be a resounding answer to many of these challenges. Rather than competing with other providers for stretched field trip funding, field days provide a venue for cooperation. Groups may host events at a popular museum or arboretum and/or bring together educators from a variety of EE providers as organizers and presenters. Field days can be held close by for teachers facing strapped transportation budgets. In a single day, they can serve entire schools of students. Some groups devote limited expert time to train high school students as presenters for elementary student field day participants. Indeed, this is the time to expand rather than allow declines in field days.

WHAT THE RESEARCH SAYS ABOUT FIELD DAYS

Environmental field days such as Children's Water Festivals, Conservation Days and Environment and Agriculture Days involve a great deal of money, staff, time, and energy in program planning and presenting. Field programs often involve staff from a variety of agencies and organizations like museums, zoos, nature centers, arboretums, Departments of Natural Resources, Soil and Water Conservation Districts, and Extension. Educators often see field trips as a starting point for young people to gain first-hand

Jeff remarked with enthusiasm that the field day was finally off to a fine start following its three-year hiatus. "It was frustrating," he stated. "We had all this money sitting in our field trip fund with no one to organize the event. The other teachers were ready to throw in the towel, giving up the money for other trips. I just asked for one more chance." Jeff helped them by adopting responsibility for organization of the field day. He called together a group of the event's past presenters. "But they didn't have enough time to prepare the thing," he continued, "These days their time is crunched. But they weren't willing to let it die."

At a workshop, Jeff had heard about training older students as field day presenters. "They were excited about the idea," he noted. Together the group developed an event theme that meshed with the elementary and high school curricula. Then, past presenters devoted one afternoon to working with a smaller group of high school students, providing background knowledge, questions, and activities for their presentation. "Now these kids are doing the great work of presenting to the elementary students. They're excited. The elementary students think it is so cool. A few even have brothers and sisters presenting. And the best part is we were able to use the money to cover transportation costs for the elementary schools...with a little left over for our own celebration at the high school." Two other school teachers have already called Jeff, exploring the possibility of adopting the model.

knowledge and experience about science as it relates to the environment. Yet they also want to know: Do these programs make a difference? How widespread are they? How can they be improved to have a greater impact?

DO STUDENTS LEARN ANYTHING ON FIELD TRIPS?

While learning may not be easily observed, one thing is obvious to teachers, parents, and field trip leaders: kids enjoy field trips to events like field days. Researchers have found field trips to have positive impacts on student attitudes (Ignatiuk, 1978; Koran, Koran & Ellis, 1989; Lisowski & Disinger, 1988; Ramey, Walberg & Walberg, 1994; Stronck, 1983). Smith (1979) found that 6th graders participating in community outdoor education had improved attitudes toward school and learning in general. Gross and Pizzini (1979) and Knapp (2000) surveyed students a year or more after field experiences and found increased and sustained improvement in attitudes and enthusiasm toward the sites they had visited and the topics studied. In their study of 5th and 6th graders' visits to a science museum, Flexer and Borun (1984) found that the field trip improved students' attitudes toward science but did not improve their knowledge over classroom instruction. They concluded that one of the great advantages of science museums and other informal venues is building positive attitudes toward science and scientific topics.

In some cases, however, field trips have impacted more than attitudes. Many studies have shown field trip experiences like field days resulting in knowledge gain by participants (Bitgood, 1989; Bogner, 1998; Evans, 1958; Falk & Balling, 1982; Stronck, 1983; Wendling & Wuensch, 1995; Wright, 1980). In the context of field days, knowledge gain has been demonstrated by some Extension programs. In Mississippi, the 4-H Pizza Farm Field Days demonstrated sizable knowledge gains (National 4-H Council, 1999). In Minnesota, metro area students involved in the 2001 Children's Water Festival revealed an average 25% improvement in test scores (Bilotta, 2001). While many studies measure knowledge gain in post-tests directly following the field trip experience, Falk and Balling (1982) and Bogner (1998) measured knowledge retention after one to six months, suggesting that field trips can have relatively long-term impacts on knowledge.

In the context of environmental education, impacting attitudes and knowledge may not be enough. Many key definitions of environmental education include teaching skills and motivating citizens to take action in their own lives and, on a broader scale, to address complex environmental issues (Barry, 1976; Childress & Wert, 1976; Culen, 1998; Hungerford & Volk, 1990; Rubba & Weisenmayer, 1988; Stapp et al., 1969; UNESCO, 1977). Most research on the effectiveness of field trips has focused on the impacts made to knowledge and attitudes. In addition to this, however, some researchers have explored field trip impact on behavior. Bogner (1998) measured knowledge and behavior change variables in middle school students participating in a one- or five-day outdoor ecology program. Students participating in the one-day program showed prolonged increases in ecological knowledge, but no change in behavior. Some students in the five-day program, however, did show small changes in both short- and long-term behavior following the experience.

Nebraska's Groundwater Foundation conducted a behavioral impact study in 1994 to determine the impact of their Children's Groundwater Festival. They interviewed teachers and students who had participated in the Festival recently and in previous years. They found that participation did appear to be linked to conservation behavior, but the impact was sporadic and inconsistent. Most behavior change occurred on levels over which the individuals had complete control such as turning off the faucet while they brushed teeth. This study did not account for other educational or personal influences that may have spurred behavior change in participants. They concluded that while the

festival did not have a direct impact on behavior, it did serve as a catalyst for behavior change.

Although some educators assume that improvements in attitudes and knowledge will naturally lead to behavior change, the connection between these variables is complex and poorly understood (Culen, 1998; Fishbein & Ajzen, 1975; Leeming, Dwyer, Porter & Colbern, 1993; Ramsey, Hungerford & Tomera, 1981). Upper elementary students are more likely to make changes to simple behaviors over which they have control, such as recycling. (Groundwater Foundation, 1994). They are less likely to affiliate with behaviors that require real sacrifice, like not using a car (Rickinson, 2001). Researchers suggest that targeting behavior can have an impact beyond an individual child. A child's concern for the environment can influence the behavior of parents. This impact may increase through family discussion and working together on homework assignments (Ballantyne, Connell & Fien, 1998 & Uzzell et al., 1994; both cited in Rickinson, 2001).

WHAT FACTORS IMPROVE LEARNING?

When students arrive at a field trip site like a field day, adults often observe them "running wild" or becoming overly hyperactive and social. This phenomenon may not have so much to do with misbehavior as acclimation to a novel environment (Falk, 1983; Martin, Falk & Balling, 1981). Studies have shown that children in novel environments are distracted and must expend energy on learning about their surroundings before they are ready to attend to tasks and learn cognitive material (Falk, Martin & Balling, 1978; Kubota & Olstad, 1991; Orion & Holfstein, 1994). Martin, Falk and Balling (1981) determined that novel environments, as opposed to familiar environments, are generally not appropriate for assigned-task learning.

It does appear, however, that with the appropriate level of novelty matched to the appropriate grade level, one can actually improve learning (Falk, 1983; Falk & Balling, 1980). Falk and Balling (1982) compared learning in 3rd and 5th graders who were taught a lesson on trees in three different settings: their classroom, the schoolyard, and a nature center. While the 3rd graders learned best in the schoolyard and poorest at the nature center, the 5th graders performed best at the nature center and poorest in the schoolyard. This phenomenon suggests an optimum level of novelty that can actually improve learning. For the 3rd graders, the nature center was too new and distracting for them to learn well, but not so for the 5th graders. The researchers conclude that, "Fifth-and sixth-graders may not only be ready for day-long field trips to novel settings. . . but may thrive on them" (Falk & Balling, 1980, p.8).

In situations with a high level of novelty, research has shown improvements in attention to tasks and knowledge gain if students are first desensitized to the novel environment (Kubota & Olstad, 1991; Rudman, 1994). Research by Balling, Aronson, and Falk found that novelty-reducing treatment (information on location of restrooms, agenda, types of food at concession, etc.) helped 4th graders at a zoo learn better than a pre-visit program about how and why to make observations about animals (Falk,1983). While novelty- reducing details may seem unimportant in cognitive learning, it seems students can easily become distracted wondering where the restrooms are or when they get to visit the gift shop.

Once students are appropriately introduced to the field setting, the teaching methods used can also work to improve learning. A field setting is more likely to improve student learning if it directly relates the topics being studied to the outdoor location (Falk & Balling, 1979; Knapp, 1996). Active learning strategies, such as hands-on activities, inquiry exercises, and experiential learning help engage students (Carlson & Maxa, 1998). Traditional classroom teaching may be less effective than non-formal science methods (Colburn, 2000; Griffin & Symington, 1997; Price & Hein; 1991; Wendling & Wuensch, 1985). Games, simulations, role plays, choice

mapping, and other creative methods can spur student interest and even encourage critical thinking (Downing, 1997; Paul, Binker, Jensen & Kreklau, 1990; Regnier et al., 1992). Many active learning methods are recognized as enjoyable and developmentally appropriate approaches to teaching upper elementary students (Andrews, 1992; Martinez & Hartel, 1991; Spector & Gibson, 1991).

The use of themes can also improve learning by helping both educators and students organize information and connect ideas (Ausubel, 1960; Ham, 1991; Regnier et al., 1992). Unlike general topics such as natural resources or water quality, themes are complete sentences that tell a story: "The actions of our community impact the Mississippi River." When the field day has passed, students are likely to remember the theme more than individual facts. Once a theme is developed, it is important to limit the number of supporting ideas that are presented. Supporting ideas should be limited to seven, plus or minus two (Miller, 1956). By recognizing that the human brain has a limited capacity to process new ideas and by limiting main points, the overall theme will have a greater impact on what students retain (Ham, 1991).

Researchers in a variety of educational disciplines agree that short educational programs, out of context and without reinforcement, are unlikely to have much educational impact (Culen, 1998; Volk & McBeth, 1997). Students learn more on field trips that are supplemented by preliminary or follow-up activities in the classroom (Farmer & Wott, 1995; Gennaro, 1981; Orion & Holfstein, 1991). Gennaro (1981) studied the impact of pre-visit instruction on 8th graders attending an Omnitheater production at the Science Museum of Minnesota. Gennaro found that pre-visit instruction increased performance on a knowledge test. Gennaro is not alone in finding that pre-visit classroom preparation positively impacts learning (Barnes & Clawson, 1975; Balling, Aronson & Falk, as cited in Falk, 1983; Delaney, 1967; Evans, 1958; Orion & Holfstein, 1991).

Various forms of pre-visit instruction have been tested. Hartly and Davies (1976) suggest that pre-tests alone can have positive impacts on learning by alerting students to ideas that will be studied. Lockett (1982) suggests that this finding illustrates a lag in children's understanding and application of the concept. He suggests that field settings offer a great opportunity for students to "extend emerging cognitive abilities to new situations" (p. 3). Learning theorists have supported the idea that pre-visit materials and concept introductions are useful instructional strategies when presenting students with new information (Ausubel, 1960; Koran & Baker, 1979). Training of teachers before field trips may also improve student learning and attitudes (Gutierrez de White & Jacobson, 1994, as cited in Rickinson, 2001).

Follow-up activities, even without pre-instruction, can also increase student learning (Farmer & Wott, 1995; Flexer & Borun, 1984; Rudman, 1994). Knapp (2000) found that students taking part in a field trip without follow-up instruction retained positive attitudes over time, but could not remember the content specifics of the trip. Knapp concludes that students need follow-up and repetition in the classroom to transfer short-term learning from a field trip into long-term memory. Follow-up activities reinforce key concepts and give students a chance to process the field day experience. Summary activities like creating Venn diagrams, concept maps, or diagramming can help students reflect on what they learned and make connections between different concepts covered during the field trip (Oldfather, West, White & Wilmarth., 1999; Hyerle, 1996). For learning to be optimal on a field trip that focuses on experiential learning, students need to have opportunities to reflect, generalize what they have learned, and apply key concepts to new situations (Kolb, 1984).

Although primary and follow-up activities can increase student learning on field trips, some researchers argue that the best way to have an educational impact is to integrate the field

program into a well-constructed classroom curriculum (Culen, 1998; Gross & Pizzini,1979; Mason, 1980; Volk & McBeth, 1997). Upon completion of a study on variables impacting high school students' learning on field trips, Orion and Holstein (1994) concluded that field experiences are best situated early on in a curriculum. Students will be able to apply concepts they are learning while the topic is new enough that they do not get bored and distracted during the field experience.

MEASURING PROGRAM IMPACT

Program evaluation and assessment is an important step in improving the effectiveness of environmental education and field study programs (Disinger, 1981; Marcinkowski, 1993; Simmons, 1991). Although evaluation is the key to measuring success, these programs rarely use it, emphasizing participant satisfaction rather than learning outcomes (Chenery & Hammerman, 1984/85; Disinger, 1981).

To begin the evaluation process, programs need to produce and share clear learning goals and objectives. Goals and objectives help to effectively guide educators, prepare learners, and offer a baseline for measuring learning outcomes (Hungerford, 1998; Marcinkowski, 1993; Simmons, 1991; NAAEE, 1996). Goals and objectives should relate directly to students outcomes in terms of attitude, knowledge, or behavior. The National Science Standards and state and other standards are sources of accepted learning goals and objectives that are accepted by the public. Measuring performance based on these goals and objectives can take a variety of qualitative and quantitative forms, including pre- and post-tests, essays, concept maps, and portfolios (Marcinkowski, 1993; NAAEE, 1996). Assessments can also be seen as opportunities for educators to track their own performance and improve their teaching methods (Regnier et al., 1992).

RECOMMENDATIONS FOR FIELD DAYS

Beyond numbers and statistics, there are a number of creative ways in which individual programs approach some of the educational challenges that grow out of the field day format. Some of these approaches include providing presenters with training or materials on age-appropriate education, involving classroom teachers in an in-service curriculum training, developing an annually evolving curriculum to accompany the Field Day, designing a Field Day to integrate into a curriculum already used by schools, and taking advantage of the outdoor setting to transform a series of stationary presentations into an illustrative guided hike. In addition, the application of educational theory can enhance natural resources field trips (Athman and Monroe, 2002).

Following a review of relevant literature, program surveys, and feedback from University of Minnesota Extension Educators, a series of seven recommendations were developed for planning and delivering effective Environmental Field Day programs. It is important that program planners take time to create a vision of their program as a whole. This means seeing more than a loosely connected series of presentations or learning stations, but rather an entire program with coordinated goals. Equally important is involving program partners for valuable information, planning support, financial resources, and in-kind donations.

RESEARCH-BASED RECOMMENDATIONS FOR FIELD DAYS

1. Provide clear learning goals and objectives. Share them with all participants (classroom teachers, volunteers, students, and presenters) and use them as a basis for evaluation and assessment. These should be written as the outcomes students will gain from the experience, (i.e., "students will demonstrate water quality testing and know the purpose of each test.")

2. **Develop a theme for the field day** and limit the number of key supporting ideas from five to seven.

3. **Use appropriate teaching methods**, such as hands-on activities, role-play, and other active learning methods. Explore ways to incorporate a variety of learning styles (auditory, visual, tactile, kinesthetic, logical, and linguistic) to reach all students.

4. **Support behavior change** by offering realistic ways students can have an impact. If possible, explore case study or issue investigation formats as a context for the field day. Encourage students to discuss issues with their families or take homework home to share. Present both sides of an issue and let young people debate the outcomes.

5. **Create strategies for program integration** that include preliminary or follow-up activities, or both. Explore ways to connect the field day program to a classroom curriculum, either by creating a curriculum or tailoring the field program to a curriculum already in use. If creating your own curriculum, be sure to involve teachers in the design and planning, and offer in-service training if necessary. Tailor activities and curricula to local educational standards.

6. **Prepare the players.** Prepare classroom teachers by sharing expectations, learning goals and objectives, and the program theme. Similarly, students should be prepared to learn and be aware of the theme and learning goals. Offer an orientation session or provide pre-field day preparation materials to reduce distractions of novel setting. Field day leaders, volunteers, and presenters need to know the theme and learning goals, and may appreciate further information or training on age-appropriate or creative teaching methods

7. **Develop and implement regular program evaluation and assessment.** Look beyond participant satisfaction and implement qualitative or quantitative methods that say something about students' change in attitudes, knowledge, or behavior after the field trip program. Think in terms of outcomes the students can demonstrate and the best way to obtain that information. It may be through a written survey, observation, interviews, or talking to parents and/or teachers.

HOW TO USE *BEST PRACTICES FOR FIELD DAYS*

The Best Practices for Field Days: A Program Planning Guide for Organizers, Presenters, Teachers and Volunteers extends the recommendations for field days through a deeper research base, expert advice, and practical tips. The intent of this guide is to provide you—the organizers, presenters, teachers, and volunteers of field day events—with practical and proven ways to increase the success of your events, improve student learning and retention, and make meaningful strides in the development of an environmentally literate citizenry.

The guidelines encompass six broad best practices:

1. **Integrate marketing into your planning process.** Base your events on the needs of participating students, teachers, and their communities. Make the event attractive and fun. Promote your field day where teachers will see it.

2. **Structure your field day around a single theme.** Focus your events on a single key message. Plan presentations to extend your theme.

3. **Assess your audience before the event.** Get to know the diverse characteristics of participating students—ages, learning styles, cultures, diets, and abilities. Plan activities that account for and build on these characteristics.

4. **Plan your setting for effective education.** Choose a unique setting for your field day. Create an event layout that encourages learning. Clearly label important areas, plan for accidents, and allow students time to explore their surroundings.

5. **Use experiential teaching methods.** Engage students in exploring field day environments. Let them experience first, and then construct lessons learned. Try different methods and ask lots of good questions.

6. **Develop and implement program evaluation.** Take time to evaluate both the success of your field day design and what students learned. Set a clear focus and select appropriate methods for your evaluation.

All of the best practices have been formatted in a similar way to introduce the idea, and lead you from research recommendations through implications for your field day design and practical tips. Throughout the document, the information and research has been filtered to address the most pressing question you may have, i.e., "Tell me what I need to do to improve the event?" Answers to this question will be found in the first part of each section. The detailed research and information that support the answers to these questions are found at the end of the section as resources and references. Each best practice includes the following sections:

1. **Introduction.** Briefly describes how and why this best practice can make a difference in the success and impact of your field day event.

2. **What the Experts Say.** Discusses in concise bullets the research and expert recommendations on which the best practice was based.

3. **Implications.** Translates the research and expert recommendations into bulleted objectives for planning and participating in your field day events. Implications are provided for each of your key field day players—organizers, presenters, teachers, and volunteers.

4. **Working Together.** Details areas where you can cooperate to achieve your implied objectives.

5. **Practical Tips.** Provides a few useful tips to help you efficiently accomplish your implied objectives.

6. **Resources.** Includes detailed information on the best practice that you can use for planning, developing presentations, communicating with teachers, etc.

7. **References.** Describes the resources used in developing the best practice.

Organizational details like planning checklists, budget tips, sample topics, and a list of potential presenters, have also been included at the conclusion of the guide to assist you in implementing the best practices for your field day.

As you can well imagine, it is difficult to prescribe a single process for developing field day events based on the best practices. These events are highly varied in content, audience served, and setting. They involve organizers, presenters, teachers and volunteers who each play different but interrelated roles in event successes. Yet, the *Best Practices for Field Days* guidelines inform each of the players. Most are important parts of more than one step in any event-planning process.

In an effort to make using the guidelines easier, the best practices are listed roughly in the order which they arise in event planning. For example, you will probably worry about conducting a needs assessment and creating a theme before selecting appropriate teaching methods. However, it is recommended that you review the guide completely before attempting to integrate guidelines into your planning process. After a once-through, you may decide to define evaluation goals or assess your audience before developing an event theme.

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2. Best Practice: Integrate Marketing into Your Planning Process

BACKGROUND

Marketing is essential to successful programming. Regardless of the high quality of your event, you will gain more participants if people hear about it or want to attend. Marketing processes help you design a program that meets participants' needs, effectively informs them of its existence, and explains why it is important to them. A well-planned marketing campaign can make your existing programs more effective, leading to more participation and even allowing you to generate more revenue.

Most field days events will employ *direct marketing techniques*, or marketing geared toward getting participation from target audiences. Essentially, you want them to sign up for your program. Luckily, the process for planning a direct marketing campaign closely parallels organizing educational components of your field day. If you consider marketing problems before and during program design, you will gain a better understanding of your audience's perceptions, values, and needs. A program based on these characteristics will be more effective and successful.

WHAT THE EXPERTS SAY

- Identify a need for any program that includes a problem, people involved, and consequences of the problem (Liepold, 1992; Stern, G.J., 2001).
- Get to know who your audience is, where they live, what they value, and how they behave (Kerin et al., 2003; Liepold, 1992; Stern, 2001).
- Set measurable goals for marketing that consider available resources, revenue, and education targets and competition (Bly, 2002; Kerin et al., 2003; Liepold, 1992; Stern, 2001).
- Budget for marketing materials that ensure you reach more potential participants more often (Ogden, 1998; Tonning et al., 1998).
- Ask people to review your marketing materials prior to using them (Bly, 2002; Kerin et al., 2003; Liepold, 1992).
- All publications should follow a motivating

"We are always looking for something new and exciting," scout leader Cheryl stated. "It's great when the kids can come to these events, meet scouts from other towns, and learn new things." When asked why she decided to bring scouts to the Nature by Night field day, Cheryl added, "Our district rep gave us the brochure at the monthly meeting. The event just sounded so neat. Kids get to spend the night. The brochure talked about calling owls, stalking insects of the night, and meeting a bat. Our scouts really liked the bat picture in the brochure." Event organizers, urged by increasing light pollution in the region, developed a theme, "some animals need the night." While teachers were unlikely to attend the evening event, they thought it might be attractive to scout groups. "We're just so happy to see a Friday evening event," Cheryl explained, "because most of us work during the week and the kids have homework. This worked just perfectly."

sequence that grabs attention, identifies a need, and positions your program as the solution (Bly, 2002).

- People generally read posters and brochures in the same way they read books—left to right, top to bottom (Nelson, 1987).
- Follow design principles to make sure your promotional materials focus peoples' attention where you want it (Nelson, 1987).
- Use language that audiences will understand without clichéd artwork and fonts including templates, clipart, picture cutouts, picture tilts, fancy text, and vertical text, etc. (Nelson, 1987).
- Use a lot of high quality pictures to convey messages (Nelson, 1987; Tonning et al., 1998).

IMPLICATIONS FOR PLAYERS

Organizers

- Read papers, journals, conduct a survey or convene a focus group(s) of teachers and resource specialists to explore and identify needs for your program. Make sure the focus of your field day meets these needs.
- Budget for design and creation of promotional materials.
- Set measurable marketing goals, and create a strategy for promotion of your field day that reaches your audience through multiple media (e.g., newsletters, emails, list serves, word of mouth, etc.).
- If possible, work with a professional to design your publications and messages, and follow sound design principles. Good graphic design and communication will strengthen response to your marketing efforts.
- Compile mail and e-mail lists of participants and contact information, and use these to tell people about upcoming events that may be of interest to them. Avoid using them to send spam or junk messages.
- Invite the media to your event. Assign someone to lead them around the various presentations and activities.
- Gather pictures to use in publications. Make sure that plenty of people will photograph your event. If possible, plan for a professional photographer to attend. Get permission to use their pictures.
- Use photos that reflect the diversity of your target communities.
- Make sure you have proper releases to use any pictures taken.

Presenters

- Ensure that your presentation and activities follow the need for the field day.
- Follow the motivating sequence to grab attention, identify the need and position your program as the solution and provide descriptions of your presentation well in advance of the event for use in marketing publications.
- Provide organizers with copies of business logos and any images (preferably in electronic format) that may help with publication design. This lowers cost and tells people that you are a part of the event.

Teachers

- Tell event organizers themes and activities that you would find useful and engaging for students and your curriculum.
- Let organizers know the best way to reach you with information about their programs.
- Tell others about good field days events.

Pass around promotional brochures, posters, etc.

- Ask adult volunteers to photograph the event. Provide photos to event organizers.
- Make sure that organizers have proper releases to use pictures from people in the photographs.

Adult Volunteers

- Tell others about successful field days events. Pass around publications.
- Take plenty of photos. Record the names of people in these photos. Provide copies for your students' teachers.

Working Together

- Organizers should consult Natural Resource professionals and participating teachers during needs assessment. Together, you will identify and consider stronger program needs.
- Organizers should ensure that teachers and presenters have plenty of safe opportunities to critically evaluate the event during planning stages. This makes it more likely you will get strong buy-in from teachers and presenters who participate in the event.
- Teachers must keep in mind that event organizers are likely unfamiliar with the world of formal education. To ensure a positive and effective program, teachers should help them understand important standards and policies (e.g., science standards, curriculum topics being studied at the time of the event, when field trips are planned, merit badge requirements, service learning credits, etc.) that could be met through a field day.
- While event preparations are usually left to the last minute and largely in the hands of organizers, all players should allow more time in their schedule to participate in the planning process. This may include reviewing marketing strategies and publications, ranking possible themes, taking time to consider activities that appropriately fit a theme, delivering brochures, etc.

PRACTICAL TIPS

For Marketing Your Event:

- Send out a teaser or short reminder for your event at the beginning of the school year, prompting teachers to plan your event into their schedules.
- Utilize free marketing sources when feasible. Press releases and community bulletin boards. Trade publications often cost nothing.
- Explore the possibility of media sponsorships. Television, radio, and newspapers may offer free advertisement in exchange for hosting their presence at your event.
- Get promotional materials out with plenty of lead-time to allow teachers to sign up for your program. Three or six months will give them plenty of time to check with school administrators, set-up buses, etc.
- Consider audiences other than formal science classrooms when event planning. Some themes may be more attractive to social studies, language arts, and visual arts teachers, scouts and other youth groups.
- A field day event held during a unique time or location (e.g., an event at night or on a boat) may be more marketable. However, be sure to account for added novelty when planning the event.
- Consider presenting your program and publications to local teacher's unions, meetings of education administrations,

FIG. 1: One process for implementation of a successful program marketing strategy.

VERIFY THE NEED	Aligns audience needs with the goals and objectives for your program. Define a problem that your program will help to solve. Consider a) who is involved, b) definition of the problem, and c) consequences of the problem for the audience.
TARGET AN AUDIENCE	Aligns your marketing efforts with the group that makes a decision to participate in your event. Your market audience will be different than your program audience (i.e., teachers, administrators, and youth leaders rather than students).
ANALYZE THE ENVIRONMENT	Aligns your program design with the external environment. Identify and explore competition. Assess your capabilities and budgets. Determine your unique strengths and weaknessess. Define a position and message.
DEVELOP A STRATEGY	Aligns with your program design, development, distribution and finacing with the real world. Consider the best ways of communicating the benefits of attending your event to the target audience. Design any promotional materials that you will need.
REVIEW	Proves that you strategy will actually work. Test your promotional materials in thorough review by your peers and members of the target audience.
BUILD SUPPORT	Aligns with the entire proccess, mostly implementation of your program. Employ promotional materials as well as personal communication with the target audience to begin building support for your program.
CHECK FOR READINESS	Catches any potential slip-ups in your plan. Make one final check that all parts of the marketing process have been completed before final implementaion of your strategy.
MARKET THE PROGRAM	Prompts people to sign up for your program. Send out promotional materials. Set up media interviews, etc.
EVALUATE SUCCESS	Measures how well your strategy worked. Ask participants how they heard about the event. Why did they sign up? Reccomend changes for marketing future events better.

Adapted from: Liepold, M. (1992). A Planning Guide for Marketing Extension Programs. University of Minnesota Extension MI-05894-GO

business and professional meetings, conferences, PTAs, etc. All of these will induce word of mouth advertisement, which is very effective.

- Take time to get to know members of the various media. This takes time, but they will be more likely to cover your events.

For Your Promotional Materials:

- High school and college graphic arts and marketing classes may help with publication design for little or no cost.
- Think simple and consistent. Make your message direct. Use one or two common fonts, and pictures that obviously relate to the message.
- Providing a printer or person copying your materials with electronic versions of your publications will result in higher quality printouts. However, you should ask them whether their machines are compatible with your software, and ask them to print a proof copy to check for errors.

DIRECT MARKETING PROCESS

This section describes steps of the direct marketing process illustrated in Figure 1. These steps should parallel and influence design of your field day event.

1. In step one of the process, you should verify the need for the program.

- Read newspapers, journals, talk with professionals, teachers, and parents to identify a problem that you can help to solve.
- Define the people involved and the consequences of the problem. Attempt to distill your findings in a one-sentence issue statement. For example: *Due to limited awareness of recyclable products, students are tossing lunch recyclables into the trash and filling limited landfill space.*

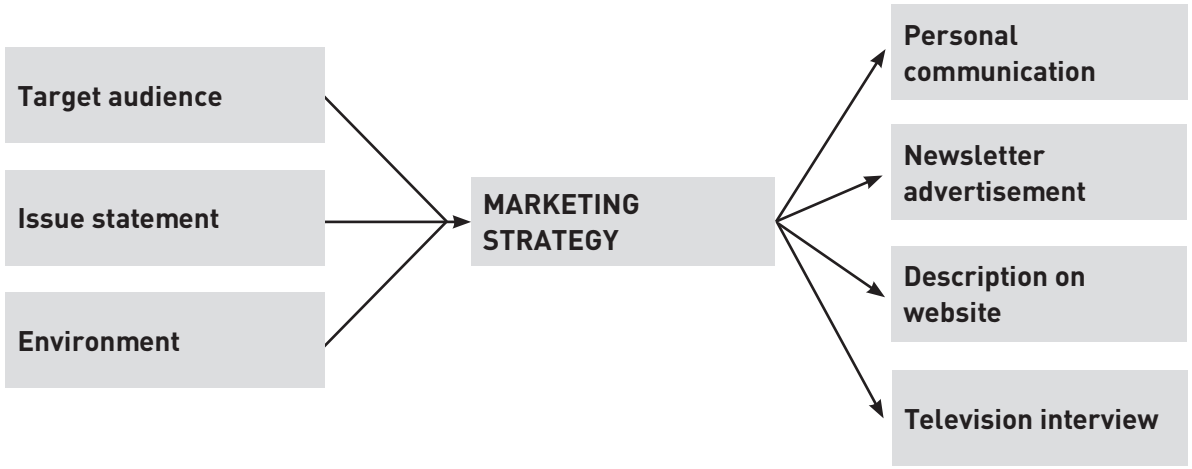
When beginning your field day design, this issue statement will set the foundation for the development of your event theme and marketing strategy.

2. Your marketing target audience evolves from the people involved in your issue statement.

- Though related to the student audience identified for your program, the target audience for field day events will almost always be their adult parents, teachers, and leaders.
- You will be more successful in marketing your event to them if you understand their interests, motivations, behaviors, lifestyles, etc. Consider researching your audience by:
  - Geography: county, community, school district, landscape, etc.
  - Demographics: age, income, education, occupation, etc.
  - Psychographics: personality, lifestyle, what they value, etc.
  - Behavior Characteristics: past involvement, awareness of the program, attitudes about your agency, etc.
- Expect to spend the bulk of your planning time on this audience definition. You might question colleagues about their perceptions of the population, form focus groups of your target audience that help to inform your design, and use the internet to search for audience information.

Liepold (1992) describes this as the rifle (rather than shotgun) approach to marketing. The more you know, the more accurate and powerful your shot at gaining their participation. You can use

FIG. 2: A sample integrated marketing plan.



this information over and over again in designing future education programs.

3. Analyze the environment in order to identify resources for your program, including competition and potential partners.

- Identify and explore competing programs (other field days, field trips, etc.). Search for successful strategies in other programs that you might replicate.
- Find out if any of these programs might benefit from partnership. List your capabilities and budget constraints.
- Stern (2001) suggests using your analysis to create measurable marketing goals. How many participants can you effectively serve? What are your revenue generation targets?

4. Create a marketing strategy based on information gathered through the initial steps of your process.

- Determine the channels or modes of communication like e-mail, fliers, and brochures, which will allow you to most effectively reach your target audience and reach your marketing goals within your budget.
- Strive for a mix of promotional materials that maximize both the impact and reach of your message. Consider the equation noted by Tonning, B., et al (1998):

The Number of People You Reach X The Number of Times You Reach Them = Results

It may be true that personal mailings have more impact on your target audience than a newspaper advertisement. So, it is important to plan an integrated marketing communication plan that employs different channels to increase success. Figure 2 illustrates a sample plan. Adapted from: Ogden. J.R. (1998). Developing a Creative and Innovative Integrated Marketing Communications Plan: A Working Model. New Jersey: Prentice Hall.

- Once you have developed a plan that will maximize your marketing success, it is time to begin designing your posters, brochures, etc. When possible, you should consider working with a marketing professional or graphic artist at the publication design point in the process. A quality publication can add loads of pizzazz and attraction to your program.
- Make event details a part of your strategy.

When designing your event, consider the attractiveness of various themes and titles. Use themes and titles that communicate energy, excitement, opportunity, and fun learning. Holding the event at a certain time of day or awarding prizes to participants may also increase the attraction of the event. Your market strategy should influence program design and vice versa.

- Include careful evaluation as a part of your marketing strategy. Plan ways to test what worked and what didn't.

5. No marketing strategy is complete without careful review.

Robert Bly (2002) warns: "The best advice I ever heard on direct marketing creativity is from freelance copywriter Peter Betuel, who says, 'Don't get trapped by personal preferences.'" What is important is not what appeals to you. The issue is whether what you write and design appeals to your potential customer. Take time to subject your strategy and publications to at least two levels of review:

- Peer Review: review by co-workers and collaborators.
- Target Audience Review: Test the target audience to see if your strategy and publications will work.

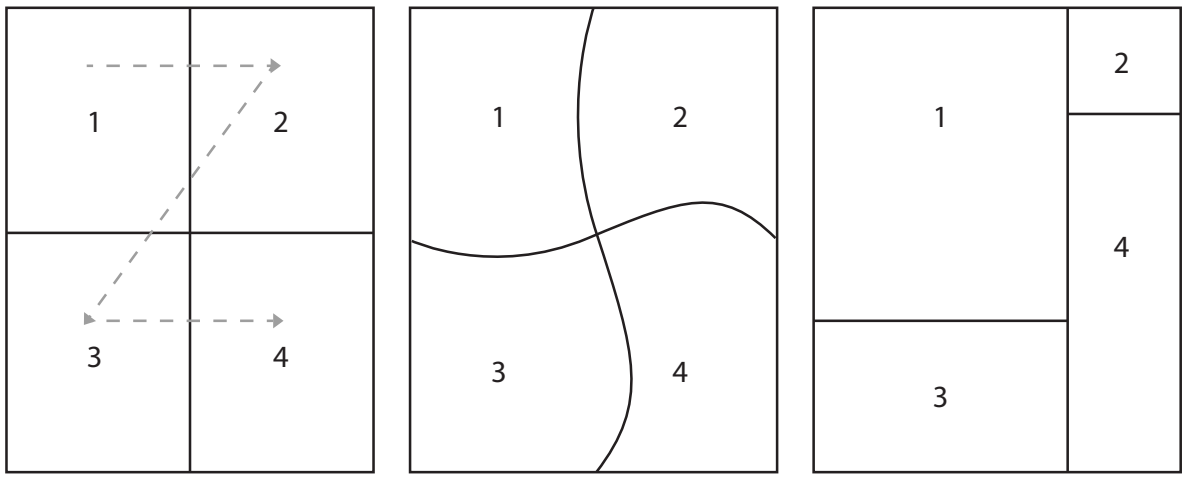
6. Work to build support for your program throughout the marketing process.

- Discuss your event with anyone who can help to spread the word.
- Keep track of who you talk to and which people actually participate in the program.

7. Make sure to check for readiness before implementing your marketing plan.

- Take one last look to make sure you completed all steps of the process.
- Check all of your promotion materials for spelling errors, etc.

FIG. 3: General layout for publications that reflects normal reading patterns of U.S. audiences.



8. Follow your marketing strategy to promote the program.

- Set a marketing schedule based on your strategy and stick to it.
- If you notice that something is not working along the way, take time to re-examine your understanding of the target audience and marketing strategies, and revise your plan accordingly.

9. Evaluate the success of your marketing strategy.

- Plan for evaluation throughout the marketing process. Which ways worked best for collecting information about your audience? Did your marketing budget force you to cut promotions that you thought useful? Who supported your event? Having information about how the process worked is more helpful than knowing only that you did not achieve your registration expectations.
- Ask participants how they heard about the program. Which promotion messages grabbed them? Did the event meet their expectations?
- Record evaluation information right away while it is fresh in your mind.

PUBLICATION DESIGN CONSIDERATIONS

Working with a trained professional is the best way to ensure design of effective marketing publications. However, the advent of affordable desktop publishing software often makes it more cost efficient to design pieces in-house. In either case, heeding the following general guidelines will lead both to better brainstorming with experts and successful design of promotional materials.

Lead Time

Strive for publication deadlines at least two weeks in advance of your marketing plan deadline. This will allow time to revise formatting and/or printing mix-ups.

Print/Photocopy

Compare pricing and benefits for both photocopies and printing of your publication. These are different processes.

- Photocopies are most often cheaper for small numbers and black/white designs.
- Printing is effective for colors, designs destined for re-print, and signature pieces.

Think creatively. You may be able to print a high quantity two-color brochure for multi-year use, and copy an annual insert with program specifics.

Format

Research and follow the industry format for layout of your publication. In general, media publications like press releases, radio and television spots should adhere to general guidelines. These are easily found on the internet or at your local news agencies.

Layout

This is the most artistic and complex part of the publication design. Your target audience, messages, and publication format are all integral to your layout—press releases, posters, and brochures all demand different designs to be most effective. However, there are some general guidelines.

- The design of your piece should deliberately lead the viewer on a set path from picture to picture, text to text.
- Your publication should adhere to a few general guidelines. For instance, audiences

in the United States tend to read any publication like a book—left to right and top to bottom. Figure 3 provides a few means of dividing a publication layout to reflect this readability. Under normal circumstances, a reader will move from quadrant 1 to 4. Moreover, readers tend to pay greater attention to quadrants 1 and 4. They pay least attention to quadrant 3. This means that a picture or other non-essential piece of the publication might be most effective when placed in quadrant 3.

- According to Nelson (1987) there are also a number of design principles that guide effectiveness of a publication:
    - **Balance:** this is the most obvious characteristic. It can be summed up simply in the notion that top and bottom/left and right portions of your publication should visually "weigh" the same, or have roughly the same amount of text and pictures.
    - **Sequence:** readers tend to read left to right, top to bottom. They also move big to small. Line placement and photo composition can also affect sequence.
    - **Unity:** the various pieces in your publication should have a cohesive style. Fonts, borders, banners, and pictures, etc. should all fit together.
    - **Contrast:** certain elements of a publication should be highlighted. Bigger, blacker, more colorful, and more unusually shaped items call extra attention from your readers. The artful use of white space without text or pictures can also add contrast. Don't fill everything with text and pictures if not needed.
- Nelson and others also provide a number of clichés that may adversely affect your publication:
    - **Use of templates:** templates in the various desktop programs can make design quite easy. Because of their popularity, however, you should beware of using them for high-impact pieces. Your message may not be as unique because it looks like so many others.
    - **Use of clipart:** similar to templates, these pictures provide easy artwork for publications. But, you should beware of diminishing the unity of your piece. Liberal use of clipart raises the chance that people will gloss over your message.
    - **Picture cutouts:** cutting pictures into circles, triangles and other odd shapes is usually not necessary. We are used to rectangular pictures. If your picture is good at the outset, cutting will likely diminish its impact.
    - **Picture tilts:** tilting pictures tends to guide readers in the direction of the tilt, detracting attention from the composition of the image and surrounding text.
    - **Vertical text:** this is hard to read, and likely ends up in a font larger than necessary. You can create a more successful piece by decreasing the font size and placing horizontal text in a more strategic place.
- No matter what type of publication chosen to meet your marketing goals, your message should be written in a clear and concise manner. Excessive use of fancy fonts can detract from the clarity of your most important content. Therefore, experts suggest maintaining a consistent and typical font, such as Arial, Courier, Helvetica, or Times New Roman.

Written Material

Bly (2002) also suggests that writing in nearly all direct marketing pieces should follow a motivating sequence.

1. Get attention.
2. Identify the problem or need.
3. Position your program as the solution or answer.
4. Prove your product is the best solution or answer.
5. Ask for registration, sponsorship, etc.

Photos

Finally, a good picture is worth a thousand words. Moreover, the advent of digital photography and scanning have made the practice of gathering images very easy. Tonning, B., et al (1998) suggest the following tips for ensuring high quality images for your publications:

- Snap more pictures than you need. Often, the most interesting pictures are those you didn't plan.
- Make sure people are a part of your photos. Photograph them as close-up as you can so you can see their faces and expressions.
- Try to include elements in your photos that suggest movement.
- Early morning and evening are the best times to take photographs.
- Remember to get proper photo releases before using any photographs publicly.

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3. Best Practice: Structure Your Field Day around a Single Theme

BACKGROUND

Helping students organize and remember all of the messages presented to them during a field day is challenging. Studies suggest that students can only retain limited amounts of information presented to them. Grouping related information can extend these limits. Experts suggest that themes help students to group information and better retain it by providing a framework that relates the many facts presented to them. Themes basically summarize the main idea you want to teach. They answer the "So what?" of your message and are usually complete sentences. Effective themes relate to participants' schoolwork and home lives. Effective field day presentations are planned around a few learning objectives that relate directly to the theme. Participants tend to remember themes while they often have trouble remembering all of the specific details that you may present to them.

Structuring your field day around a single theme creates more effective communication. It focuses your effort in developing presentations that provide a common message. From the participants' perspectives, themes increase the chance that they will retain the information presented to them at your event.

WHAT THE EXPERTS SAY

- When you are explicit about your message, students are more likely to retain it (Ham, S. H.,1992; Regnier, K. Gross, M., & Zimmerman, R.,1994).
- Field day students need structure to remember your information. Themes provide that structure (Ham, S. H.,1992; Regnier, K. Gross, M., & Zimmerman, R.,1994).
- Students have trouble remembering more than five to nine developmentally appropriate ideas. Field day students learners may be less motivated or may have trouble concentrating in a non-traditional setting, so you should stay in the low end of that range, i.e., five or less major ideas (Miller, 1956).
- Students can retain more than five to nine ideas when they are grouped appropriately (Miller, 1956).

At the end of the county field day, Brett happily exclaimed, "We learned all about how plants can stop soil erosion." Asked for more information, he explained, "Well, my group had to find and name three plants with fibrous roots in one presentation. In another, we used different stuff to make our own roots, put them in soil, and tested which ones stopped erosion best. And we got to plant trees on an eroding hillside in another presentation." Corey, an event organizer, smiled as Brett finished. "It is great to hear our students put things together like that," he said. Corey and other organizers planned their field day around a theme this year: *plants can stop erosion*. All of the presentations built on this theme. Corey continued, "It made more sense for the students. Instead of remembering a little from one presentation or another, they remember the theme and how all of the presentations help to explain it. I think they gain more from the event this way."

- Presentations should be planned around specific, measurable learning objectives that relate directly to the event theme, and can be clearly evaluated (Bloom, 1956; NAAEE, 2003).

IMPLICATIONS FOR PLAYERS

Organizers

- Structure your entire event around a single theme that relates to participants' school work and/or home lives.
- Limit your event to five or less ideas that support the theme.
- Inform all presenters of the theme and ask them to plan their presentations around the supporting ideas you identified.
- Use only presentations that support the theme. Avoid activities that are "filler."
- Introduce the theme at the beginning of the event, refer back to it with five or so presentations that support it, and recall your theme at the end event.
- Designate specific and measurable learning objectives for each presentation that relate to the theme.

Presenters

- Know the overriding theme of the event.
- Limit your presentation to a single idea that links directly with the theme of the event.
- Relate your overriding idea to the theme at the beginning and end of your presentation.
- Focus your presentation on achieving five or fewer specific and measurable learning objectives.

Teachers

- Introduce your students to the event theme before attending.
- Structure your pre- and post- event classroom activities around the theme.
- Be aware of presentation learning objectives. Assess students on their understanding of both the overall theme of the day as well as these learning objectives.

Adult Volunteers

- Periodically review the theme and ideas presented to students during the event.
- Help students to link different presentations with the event theme.
- Ask about the learning objectives of the field day so you know what students are expected to learn. Test them on these objectives throughout the event.

WORKING TOGETHER

- Involve all partners in developing a theme that will best meet the needs of educators, students, and presenters.
- Presenters should inform organizers of the supporting idea for their presentations. These can be compiled in a master list for teachers.
- Organizers should provide presenters and teachers with materials that describe the theme before with the event.
- Organizers and presenters may allow time in their schedules for classroom pre- or post-visits to introduce and review the theme and main event ideas with participants.

PRACTICAL TIPS

- Consider school curriculum or state and national standards as a source of potential

themes for field day events. Themes derived from these sources may be useful to participating teachers and students trying to meet education mandates.

- Make the theme simple. Avoid the use of scientific jargon in themes.
- Include the theme in the name and advertising of your day. "Water Days" may express the topic of your field day, but ask yourself what you want your participants to know about water at the end of the day.
- Post the theme in presentation rooms and gathering areas at the event.
- Allow ample time to review the event theme and goals at the beginning and the end of the day.

THEME PLANNING PROCESS

Planning a theme for your field day involves:

1. Identifying a topic that best meets the needs of presenters, educators, and students participating in your event;
2. Distilling the key message, or theme, that you want to communicate about this topic; and
3. Developing no more than five presentations that support your key message.

Essentially, you will end up breaking up your theme into smaller sub-themes, and eventually specific learning objectives. This process provides a framework to help participants recall and understand information presented at your field day.

If you were planning a field day and you wanted to focus on the great prairie at your site, you might select the topic of "Prairie" for your event, but then you would need to focus on what you want your visitors to know about prairies, i.e., your theme.

Potential themes for a prairie-oriented field day might be:

- Prairies are Minnesota's most endangered ecosystem.
- Bison, fire, and drought kept our prairies alive.
- The prairie is alive at night.

Potential presentations for "Bison, fire, and drought kept our prairies alive" might be:

- Bison were great seed movers.
- Fires slow tree growth.
- Some plants like it dry.

Potential learning objectives for "Some plants like it dry" might be:

- Participants will name three adaptations that help prairie plants survive drought.
- Participants will identify and describe two key causes of drought in Minnesota prairies.
- Participants will be able to identify two common native prairie plants.

THEME GUIDELINES

Not only should you use a theme in developing your field day, you should use it explicitly throughout the whole event. Keeping your theme a secret is a guaranteed way that participants will go home having missed the message that you hope to impart.

1. Include the theme in the name and advertising of your field day.

"Water Days" may express the topic of your field day but tell your participants what you want them to know about water at the end of the day.

2. Introduce the theme at the opening event.

Good communication is repetitive. You should let the participants know the theme at the outset, have all of your activities reinforce the theme, and end the day by focusing on the theme. Themes need as much exposure as you can give them.

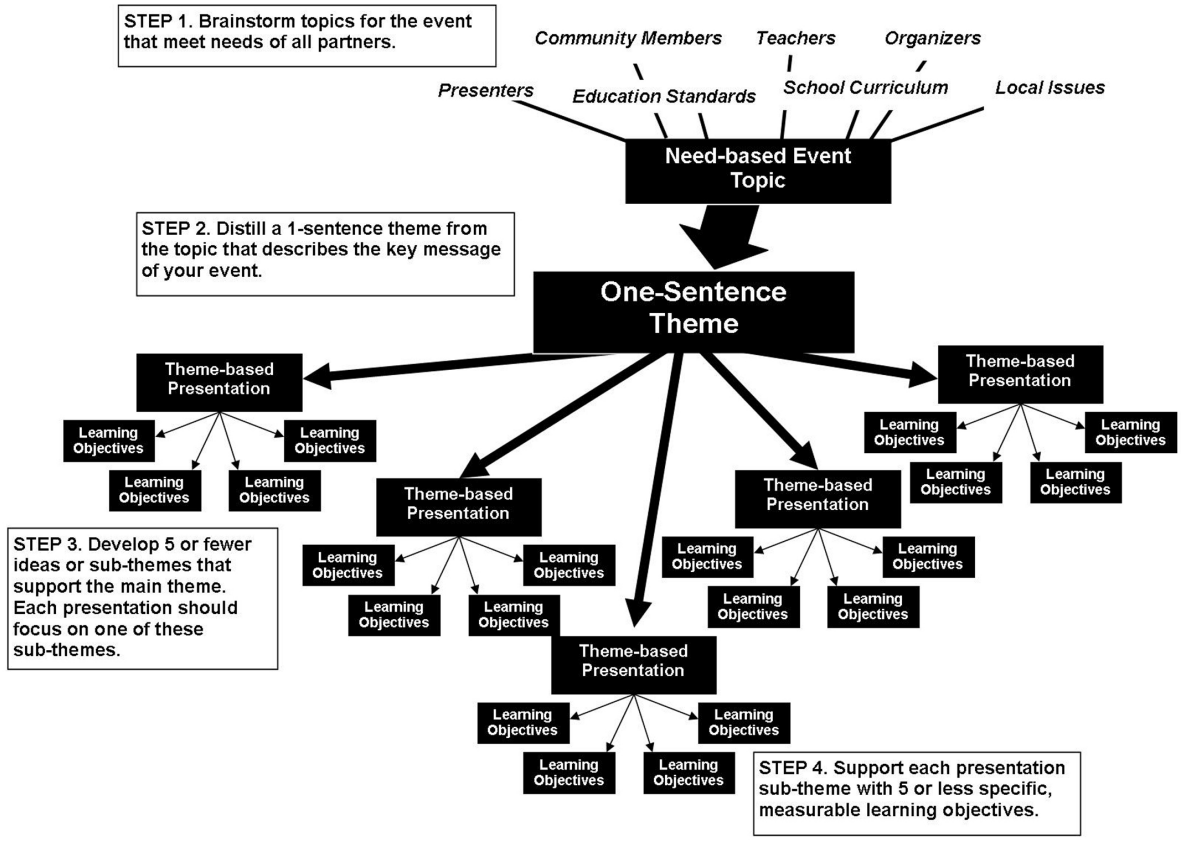
3. All events, stations, and activities should support the theme.

Each station, activity, and event should add depth and texture to your theme. It should flesh out the ideas related to the theme so that the participants can add more to their knowledge. For example, if your theme is "Raptors are predators of the sky," you might have stations on feeding adaptations, hunting styles, flying, and raptor identification. Throwing in a station on bluebird houses would be distracting and not further your message.

4. Each event, station, or activity should have its own theme that builds on and supports the overall theme of the day.

Each event, activity, or station is its own communication event. You should develop a sub-theme for that specific event that supports the day's theme. Additionally, you should make sure that the people in charge of each event know how it fits into the overall scheme. Ask them what they want the audience to know after they have gone through their station.

FIG. 4: A sample theme planning process.



5. You should have five or fewer supports for the theme.

While each station, event, or activity should have its own message and support for the overall theme, you shouldn't overwhelm the audience. Stay focused and try to keep the number of supporting ideas to approximately five things. People can only remember a few major points.

6. The closing event should return to the theme.

Some good advice is: Tell them what you are going to tell them. Tell them. And then tell them what you told them! People need reinforcement. Don't be shy in giving it to them.

BUILDING YOUR THEME FROM EDUCATION STANDARDS

National and state education standards and environmental education plans provide solid sources for planning your field day theme. These are age and subject specific, publicly backed, and measurable. Most are written in the form of benchmarks that can be easily adapted to themes and objectives.

National Science Education Standards

www.nap.edu/books/0309053269/html/index.html

A series of nationwide standards in science education developed to nurture the development of a scientifically literate society. These standards, created by the Center for Education (National Academies), are organized into three grade groupings (K-4, 5-8, and 9-12) and address life science, earth science, physical science, science as inquiry, science and technology, and the history and nature of science. These standards represent unifying goals of K-12 science education across the United States.

Finding Environmental Education in the National Science Education Standards

egj.lib.uidaho.edu/egj14/brown1.html

This short paper explores the differences between the goals of the National Science Education Standards and the national goals for environmental education. Although many of the National Science Education Standards align with environmental education, the inclusion of additional standards is necessary to achieve the intent of the national goals for environmental education.

Environmental Literacy Scope and Sequence

www.seek.state.mn.us/publications/ScopeandSequence02.pdf

A document created by the Minnesota Office of Environmental Assistance to help develop an environmentally literate Minnesota citizenry. This resource provides an integrated scope and sequence with which formal and non-formal educators may align their efforts to meet the intent of the legislation. It includes benchmarks for environmental literacy for grades K-12. Included with the benchmarks are a series of key and supporting concepts needed to achieve the environmental literacy benchmarks outlined in the document.

The Minnesota 1st and 2nd Report Cards for Environmental Literacy

www.seek.state.mn.us/publications/reportcard2002.pdf

www.seek.state.mn.us/publications/reportcard2004.pdf

Reports of statewide surveys of Minnesota residents conducted by the Minnesota Office of Environmental Assistance to assess Minnesota's environmental literacy. Included in these assessments are measures of environmental knowledge, environmental attitudes, and

environmental behaviors. These reports document the current state of environmental literacy among Minnesotans and provide suggestions as how to improve environmental literacy in Minnesota.

A GreenPrint for Minnesota

www.seek.state.mn.us/publications/GreenPrint2.pdf

A GreenPrint for Minnesota was developed by the Minnesota Environmental Education Advisory Board and the Minnesota Office of Environmental Assistance to provide a series of recommendations for achieving Minnesota's goals for environmental education over a ten-year period. The document breaks down the audiences for environmental education and provides prescriptive practices for each. Included in these audience groupings are pre-K-12 students, pre-K-12 teachers, higher education students, and citizen and youth groups.

Minnesota Academic Standards Science K-12

education.state.mn.us/content/072583.pdf

A series of science standards for grades K-12 developed by the Minnesota Academic Standards Committee as charged by the Minnesota Department of Education. These standards were developed in response to 2004 legislation that requires them to be implemented for all students beginning in the 2005/06 school year.

Included in this link are goals for student competence (standards) and measurable objectives for student performance in science (benchmarks) arranged by topic (strand and sub-strand) and grade level.

Minnesota Academic Standards in History and Social Studies

education.state.mn.us/content/072571.pdf

Standards in history and social sciences are offered to integrate the relationship of human culture and the environment through time with environmental processes and relationships. These standards were developed by the Minnesota Department of Education to provide a framework for providing students with the "knowledge and skills Minnesota students need to learn US history, world history, geography, economics, and civics as required by Minnesota statutes."

Like the science standards, they include goals for student competence (standards) and measurable objectives for student performance in science (benchmarks) arranged by topic (strand and sub-strand) and grade level. Also included in these standards are more specific examples of the benchmarks.

BEGINNING WITH CLEAR LEARNING OBJECTIVES

The impact of your event and presentations on students is ultimately judged by achievement of learning objectives. Measurable learning objectives translate your broad theme into bits of information, skills or attitudes that you actually want to develop in students. These are the things you can teach during presentations and test at the end of the field day back in the classroom, or even years later to measure your success in teaching.

1. Themes are constructed from good objectives.

"Bison, fire, and drought kept our prairies alive" may be a great theme, but your students will only understand it if they know something about how bison, fires, and drought affected prairies. Good objectives should include *specific* information, attitudes, and skills students need to understand your theme.

2. Your audience can make sense of good objectives.

Good objectives build from your students' understanding of your theme. Detailed

relationships between drought, fire, and plants may be key to your understanding of the theme. However, it may also seem like a foreign language to your students if they have never studied prairies.

3. You can build a test from good objectives.

Good objectives state exactly what you expect to teach students, and how long you expect them to retain it. Objectives should also be attainable during your presentations. "Some plants like it dry" is an idea that is key to understanding the theme "Bison, fire, and drought kept our prairies alive." Aside from asking students to re-state the idea, however, you cannot measure if they truly understand it. Ask yourself if you could build a multiple choice or fill-in-the-blank test from your objectives.

4. Good objectives encompass different levels of learning.

There is more to learning than rote memorization and reiteration. Presentations should facilitate students' analysis, application, synthesis, and evaluation of subject matter. Rather than *define, name,* and *identify,* consider using action words like *demonstrate, calculate, diagram, assess,* and *predict* in your objectives to ensure students apply things they learn in new ways. See *Bloom's Taxonomy of Education Objectives* on page 41.

5. Introduce objectives at the beginning of your presentation.

Your students can take responsibility for their learning if you arm them beforehand. Let them know right away how you are going to measure the success of their learning. Then your students can focus on acing your test.

6. Test your success.

The closing of your presentation should return to your objectives. Reserve a few minutes to test students for success in learning. This serves a two-fold purpose: 1) it helps to remind them of the key information, attitudes, and skills you presented, and 2) provides you a measure of how well your presentation is working. If students test poorly, you can make changes for the next group.

BLOOM'S TAXONOMY OF EDUCATION OBJECTIVES

In the 1956 book, *Taxonomy of Educational Objectives: The Classification of Educational Goals*, Benjamin Bloom and other educational psychologists defined six different levels of learning objectives, each associated with a range of "action verbs." Developing your learning objectives from a range of these six levels will help you ensure that students are not simply re-stating information provided, but actually using it to construct new ideas. Asking your students questions constructed from various "action verbs" will help them process information and learn in different ways.

The following is a list of different objective levels, associated "action verbs," and potential activities that you could have students do:

OBJECTIVE LEVEL	ACTION VERBS	POTENTIAL PROJECTS
1. KNOW	Tell, list, define, describe, record, name.	Lists, timelines, facts charts, notes, recitations.
2. COMPREHEND	Discuss, outline, explain, interpret, identify, restate, translate.	Pictures of ideas, re-tell in own words, flow charts, paintings, summary reports.
3. APPLY	Solve, show, construct, demonstrate, illustrate, classify.	Models, maps, solving a similar problem in the same way.
4. ANALYZE	Analyze, distinguish, compare, contrast, categorize, separate.	Data graphs, conducting/ summarizing surveys, groups of ideas/objects, research reports, lists of conclusions.
5. SYNTHESIZE	Invent, create, compose, imagine, propose, formulate, devise.	Inventions, creating metaphors, writing songs/cartoons/poems/etc., solving a problem in new ways.
6. EVALUATE	Asses, judge, justify, debate, recommend, rate, predict.	Criteria lists for judging problems, mock court-cases, rules lists, panel discussions, predictions of the future.

Adapted from:

Bloom B. et al. (1956). Taxonomy of Educational Objectives: The Classification of Educational Goals. Handbook I. Cognitive Doman. New York: D. McKay.

Dalton, J., & Smith, D. (1986). Extending Children's Special Abilities: Strategies for Primary Classrooms. Melbourne: Victorian Ministry of Education.

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4. Best Practice: Assess Your Audience Before the Event

BACKGROUND

Whether you are an organizer, presenter, teacher, or volunteer, learning about the needs, interests and experiences of the participants attending your event is the foundation of effective planning, marketing, and teaching. Regardless of the content of your presentation, learners will come to field days with a variety of personal experiences, learning styles, ethnic backgrounds, religious beliefs, and mental and physical abilities through which your information will be processed.

Every individual holds a unique set of background experiences and predilections that differentiate their worldviews. Experts have identified a number of learning styles, cultural characteristics, ways of thinking, and physiological and psychological needs that affect learning. Developing a strong awareness of these learning diversities will help you design more successful events and presentations.

WHAT THE EXPERTS SAY

- We should strive for equity rather than equality. This means differentiating events and presentations so all students have an equal chance to learn rather than providing an equal experience that may leave some students behind (Bennett, 1999).
- There are many different kinds of diversity—culture, race, gender, diet, learning style, etc. (Bennett, 1999).
- Human brains develop through a series of stages that mediate how we learn and interact with others at different ages (Walker, 1992).
- Male and females develop differently (Belenky et al., 1986; Colin, 2003; Gilligan, 1982; Kindolin & Thompson, 1999; Pollack, 1998; Schriver, 2001).
- Our culture and ethnicity affect our perceptions of time, space, reasoning, verbal messages, social roles, and interpersonal relations (Bennett, 1999; Elliott et al., 1999; Schriver, 2001).

Marissa, a participating fifth grade teacher, was pleased with how the field day worked for her students. "As a member of the advisory team," she said, "we helped the event organizers and presenters plan for our students. Fifth graders are pretty social and are going through growth spurts. Different ones like to learn in different ways. Some have allergies to foods. And you want to be discrete in correcting misbehavior." Based on the advice of teachers like Marissa, student background information from registration forms and some internet resources, the field day organizers made sure they knew about their students. One organizer, Heidi, explained, "We provide lunch for students at our field day. So, we want to make sure there are enough diabetic or wheat-free options for students who need them. We try to make sure activities include a variety of learning styles. And before the event, we sent presenters a packet of information about fifth grade students, like how they might be a little clumsy due to growth spurts and like to be social with their friends." Heidi said, "We want the students to feel like the field day was designed for them."

- Background and experience affect what we determine to be worth learning. Things perceived as unworthy may be stored in an inactive, unusable state in our memories (Schriver, 2001).
- People favor different ways of learning (Bennett, 1999; Gardner, 1993a; Gardner 1993b; Lazear, 1991; Schriver, 2001).

IMPLICATIONS FOR PLAYERS

Organizers

- Gather information about cultural, emotional, mobility, dietary, education backgrounds, etc. of your participants. Provide this information to your presenters.
- Choose an event date that does not conflict with observances of any participant cultures involved.
- Plan your event at a site that is accessible. Look for trained volunteers to help students with mobility issues.
- Inquire with teachers ahead of time about participants with physical, cognative or emotional disabilities.
- Enlist diverse volunteers when soliciting your presenters and volunteers.
- Recruit volunteers from diverse populations to serve as role models for all participants.
- If you provide food for participants, make sure your menu accounts for any dietary needs.
- Provide presenters, and volunteers with information on ages and stages (youth and child development stages), multiple intelligences (different learning styles), and cultural considerations prior to field day. Suggest appropriate teaching methods and mannerisms for reaching your event participants.

Presenters

- Ask organizers about any participant needs and be prepared ahead of time to provide for them.
- Consider accessibility when planning your presentation site and activities.
- Plan a flexible activity schedule that will accommodate for late or early arrivals.
- Get to know the various cultures that will be represented at your event. Plan activities and use mannerisms that are appropriate to your participants.
- Be aware of ages and stages, and multiple intelligences. Plan your presentation accordingly.
- Be aware of your participants' backgrounds and education. Make sure that your presentation explicitly relates to their lives.
- Offer realistic ways that students can use the information you presented.

Teachers

- Provide organizers with information about cultural, emotional, mobility, dietary, and education backgrounds, etc. of your participants to help in their planning. This will allow presenters and organizers to properly prepare for any physical modifications that need to be made, such as availability of a sign language interpreter or accessible trails for wheelchairs.
- Help organizers to identify and line up volunteers to help students who need assistance.

Adult Volunteers

- Provide presenters with any background information specific to your group that might aid them.

- Help students with limited sight or mobility transition between activities.

WORKING TOGETHER

- Organizers should include questions on a registration questionnaire that survey the composition of cultures, abilities, and background of students. Teachers should inform event organizers of any relevant information not included on forms.
- A select group of teachers, organizers, presenters, and diverse community members can be asked to review the proposed event and activities for cultural relevance, equity and accessibility prior to the event. They can recommend changes to make the event more effective.
- Prior to event planning, organizers may request a copy of school curricula from curriculum coordinators and teachers to better understand what students will study before the event.
- Organizers should consider setting aside time immediately before the event to review the background information, discuss potential implications, and answer questions. While it is imperative to provide presenters with relevant background information about students, they may be more comfortable processing the information in a pre-event meeting.

PRACTICAL TIPS

- Organizers and presenters should request assistance from members of diverse communities when planning events. In addition to answering pointed questions, community members can be strong volunteers, aiding with event planning and education.
- School systems may provide basic statistical information about cultures and genders of participating students.
- Consider the number of multiple intelligences highlighted in your activities when planning a presentation. In general, the higher the number, the more inclusive the presentation.
- The Environmental Literacy Scope and Sequence and Natural Wonders available from the MN Office of Environmental Assistance at http://www.moea.state.mn.us/ee/index.cfm can help you create a presentation appropriate to the developmental level of your audience.
- Use the multicultural resource calendar at http://www.multicultural.vt.edu/divresources/cal03n/ to aid in selecting a date for your event.

AGES AND STAGES OF CHILD AND YOUTH DEVELOPMENT

The following information adapted from Minnesota 4-H Camp Counselor Handbook summarized Karns and Myers-Wall's (1988) physical, social, emotional, and intellectual growth of children from ages 6-19. Using these guidelines to plan field day activities will provide a more comfortable and relevant educational experience for your students.

Ages 6 to 8 Characteristics

Physical Growth

- They are busy mastering physical skills and learning how to use their bodies.
- Their small muscle skills, as well as large muscle skills, are not yet polished.

So...

- Craft projects could end up messy.
- Activities need to be just that—active.
- Plan activities that use both small muscle and large muscle skills for beginners.

Social Growth

- Youth are learning to be best friends; many will have several.
- Peer opinion is becoming important to them; adult approval is also important.

So...

- Small group activities are effective.
- Dramatic play will assist in clarifying how other people might feel or react.

Emotional Growth

- They are not yet confident in themselves; they need reassurance.
- They enjoy playing games; however, they are not yet ready to accept losing.

So...

- Focus on cooperative games in which everybody wins.
- Be available to discuss fears.

Intellectual Growth

- They are more interested in the process than the product.
- To them, finishing a project is less interesting than working on it.
- Their thinking is concrete. They have difficulty with abstract thoughts.

So...

- Reading to this group will be effective and enjoyed.
- Help them predict answers to their questions.
- Provide activities that center on the doing—not the product.
- Be flexible—provide a variety of activities to reach a wide range of interests and abilities.

Ages 9 to 11 Characteristics

Physical Growth

- They are very active; they like a lot of hands-on involvement.
- They are unable to stay confined or sit still for long periods of time.

So...

- Plan activities that allow them to move about and use their bodies.
- Vary the activities to the many needs of the group.
- Avoid competition between boys and girls—mix your groups for these activities.

Social Growth

- They are beginning to identify with peers, but still look to adults for guidance.
- Satisfaction from completing projects comes from pleasing an adult.
- You will see sex-segregated groups.
- They are developing an increased independence of thought.
- They are more willing to try new things.

So...

- Clarify and reinforce reasonable limits.
- Plan plenty of time to be with same sex groups.
- Take every opportunity to help them recognize the way they are communicating with one another.

Emotional Growth

- They have a strong need to feel accepted and worthwhile.
- Successes, no matter how small, should be emphasized.

- It is easy to erode self-confidence.

So...

- Provide correction quietly—in a caring and consistent manner.
- Give positive feedback to the efforts and successes you see—and look for them!
- Never play favorites!
- Be present for this group—in the background but visible.
- Provide the safety net of an adult who will maintain boundaries.

Intellectual Growth

- They are beginning to think logically and symbolically.
- They still think better in terms of concrete items; however, they can handle ideas if they are related to things that they can do or experience with their senses.
- There is no middle ground; things are either right or wrong, fun or boring.
- They still like and look for approval and encouragement from adults.

So...

- Plan some group time to talk about beliefs and values.
- Vary the activities offered.
- Provide active experiences in their world: nature walks, adventure activities, trips to significant sites.

Ages 12 to 14 Characteristics

Physical Growth

- Growth spurts occur; this creates a problem with clumsiness.
- Girls are maturing before boys.

So...

- Plan activities that are not geared toward exceptional physical ability.
- Be patient when grooming behaviors seem excessive.
- Make available outdoor activities like adventure initiatives, canoeing, hiking, environmental stewardship, etc.

Social Growth

- They enjoy participating in activities away from home.
- Opinions of their peers are gaining more importance.
- They are developing mature friendship skills.

So...

- Involve the group in setting rules for the group or program.
- Provide realistic parameters for decision making.
- Find time to talk with them individually to help them work through problems.

Emotional Growth

- Mood swings!
- They are beginning to test values.
- They do not like embarrassment.

So...

- Plan activities that don't compare one youth with another, but rather help youth compare skills to their own standards.
- Performance should be compared to each individual's past accomplishments.
- Give them a chance to choose when and if they are "on stage."

- Avoid singling them out in front of others either in praising or criticizing.
- Provide opportunities to learn skills.

Intellectual Growth

- They enjoy playing with ideas.
- They move from concrete thinking to abstract.
- They are enjoying finding solutions on their own.
- They are self-conscious.

So...

- Provide opportunities to question the way things are done.
- Plan activities that require some length of time to complete: making a model, keeping a journal, etc.
- Ask questions to encourage predicting and problem solving: "What if this doesn't work? What could happen?"
- Let them serve as assistants.
- Offer more complex games.

Ages 15 to 19 Characteristics

Physical Growth

- While some youth are still experiencing growth, most of the awkwardness has been overcome.
- Most know their own talents and abilities.

So...

- Avoid comments that criticize or compare stature, size, or shape at all costs!

Social Growth

- Relationship skills are usually well developed.
- Recognition is important.

So...

- Involve them in service groups.
- Provide activities to explore job markets.
- Provide opportunities for them to plan their own activities.
- Allow appropriate interaction with the opposite sex.

Emotional Growth

- Independence and identity are critical.
- They are learning to cooperate.

So...

- Be willing to be wrong—the group won't put you on a pedestal.
- Plan activities that allow teens to test different roles.

Intellectual Growth

- They are mastering abstract thinking.
- Goals are based upon feelings of personal needs and priorities.
- They are able to initiate and carry out tasks without supervision.

So...

- Involve them in carrying out plans.
- Involve them in advisory groups.
- Plan some time for this group to discuss ideas and share abstract concepts.
- Support their interests in causes.

Source:

The Center for 4-H Youth Development. (2003 Revision). *Minnesota 4-H Camp Conselor*

Handbook. St. Paul:University of Minnesota Extension Service.

ADULT LEARNERS

While field day events usually target school students, you should not overlook adults as a possible audience. Adults may enjoy and learn a lot from professionals presenting at a field day. However, most experts agree that adults learn differently than children. In the words of one adult educator (Cammozzi, 1994), "Many authors maintain that the most important principle underlying adult learning is the need for self-direction by the learner in identifying needs and objectives. The use of experience is also a key factor in learning."

Experts on adult learners (e.g., Camozzi, A., 1994) suggest that:

- Adults are used to running their own lives. They will attend your field day because they see something practical to gain from it. With some help, they can tell you what they want and self-direct their learning experiences. While participating, they also expect to be comfortable both physically and psychologically.
- Adults see you as an expert, not an authority. As an educator, you need to earn and maintain their confidence. They agree to participate. You cannot easily enforce your own rules and agenda.
- Adults are mature and experienced. They will learn best if you recognize and relate your presentation to their experiences. When relaxed and provided enough time, they are capable of complex problem solving and insight.
- Adults have other important things going on. They will appreciate pragmatic, hands-on presentations that waste little time. They may also step out of a presentation or leave your field day early to take a phone call or make another appointment.

So...

You should do the following when planning field days for adults:

1. Tell them about yourself, your expertise and qualifications as a presenter or organizer. Ask them to share their backgrounds.
2. Plan flexible presentations with plenty of back up activities. Involve them in shaping your final presentation.
3. Check their comfort levels from time to time. Ask for their suggestions of ways to make presentations more comfortable, and respond immediatly if possible.
4. Focus field day presentations on practical activities, skill building, discussion, stc. Avoid oacking too much into any presentation. Provide information in handouts that they can take home and refer to later.
5. Set ground rules as a group. Remind them to turn off cell phones. However, your field day presentations should provide them the felxibility to step out to the restroom or take a call on their own.
6. Try to create a relaxed atmoshpere at your field day where they fell comfortable sharing and relating their own experiences to presentation content. Build these into your presentations.

MULTIPLE INTELLIGENCES

We all favor and develop a variety of different learning styles. Gardener (1993) describes these different styles as *multiple intelligences*. He and others have designated seven of these intelligense: linguistic, logical, visual/spatial, musical, kinesthetic, interpersonal, intrapersonal, naturalist. It is important to incorporate a variety of these teaching styles into field day presentations and activities.

Linguistic

Learning through reading, writing and speaking.

In activities, students should:

- Read and write stories, poems or essays that illustrate main ideas.
- Say answers and duscuss ideas outloud.
- Discuss the meanings of important words/ language.
- Develop mnemonic devices to remember key terms (e.g. ROY G BIV for the colors of the rainbow).

Logical

Learning through reasoning, argument, calculationg, and problem solving.

In activities, students should:

- List main ideas and/or activity steps.
- Detail connections between main ideas and/or activity steps (e.g. create and outline).
- Describe things in terms of numbers (e.g. square feet, trees per acre, ect.).
- Identify and debate multiple sides of issues.
- Develop solutions for real-world issues.

Visual/ Spatial

Learning through creating mental and physical images, maps, etc.

In activities, students should:

- Draw pictures, take photos, create models, ect.
- Use photographs to illustrate main ideas and/or activities.
- Map and diagram main ideas (e.g. concept maps, Venn diagrams, flow charts, ect.).
- Use directions, landforms, coordinates to explore landscapes.

Musical

Learning through music, tone, and rhythm.

In activities, students should:

- Play background music softly during activities.
- Sing and play instruments during activities.
- Compose songs and/or rhythms to remember main ideas.
- Use sounds to illustrate main ideas and/or activities.

Kinesthetic

Learning through movement, balance, and manipulation of objects.

In activities, students should:

- Perform tasks and/or build things that describe main ideas (e.g. plant trees, build model steam-powered turbines, ect.).
- Be physically active during activities (e.g. try to leap like a forg or crawl like a spider).
- Detail activities in terms of actions, and discuss finer points of these actions (e.g. don't swing a hammer from the wrist).
- Describe the way things feel to touch.

Interpersonal

Learning through working well with and seeking to understand others.

In activities, students should:

- Complete and or/discuss activities in groups
- Interview other students, and describe how

they understand main ideas.

- Teach and help each other to answer questions correctly.
- Describe how their actions affect others.
- Explore and develop solutions for real-world conflicts, considering how others involved feel about and understand both sides of the disagreement.

Intrapersonal

Learning through self-reflection, understanding, control and action.

In activities, students should:

- Think about and detail personal feelings and knowledge of main ideas.
- Relate main ideas and activities to past experience and understanding.
- Work individually or with a mentor to complete activities and hone skills.
- Describe how others actions affect them.
- Set personal goals for improvement and ways to achieve their goals.
- Explore the question, "Why does this matter to me?"

Naturalist

Learning through connecting with and understanding the natural world.

In activities, students should:

- Get outdoors.
- Explore and detail natural flora and fauna.
- Describe how main ideas and activities relate to nature and environmental issues
- Describe how their attitudes and/or actions affect their environment
- Explore and develop solutions for real-world environmental issues, considering social, economic and environmental implications.

GENDER DEVELOPMENT DIFFERENCES

Much of our early understanding of human development is based on male subjects. However, later research has shown differences between males and females. The following are some key conclusions that should affect design of field day activities.

Ethical Differences

Carol Gilligan (1982) discerned gender-related differences in the ethical views of her subjects. She categorized these as:

- Ethic of Care: An ethic focused on connection and responsibility. People grounded in this ethic are concerned with nurturing relationships rather than personal rights. They tend to make moral judgments based on concrete experience and concern for others' needs (Bennett, 1999).
- Ethic of Justice: An ethic focused on individual rights rather than relationships. People grounded in this ethic tend to make moral judgments according to application of universal principals and concern for personal needs (Bennett, 1999).

So...

You should strive to include a mix of both worldviews in your field days and presentations. Activities should stress many of the following:

- Celebrating our connections with others.
- Exploring concerns about how our actions impact other living things.
- Describing ways we can help others act more responsibly.

- Visiting locations where people have positive and/or negative impacts.
- Acknowledging our personal needs.
- Identifying ways others' actions affect us.
- Exploring individual rights and identifying universal ethics.
- Discussing how laws apply to issues.

Female Metaphor of Silence

Belenky, McVicker Clinchy, Rule Goldberger, & Martuch Tarule (1986) stressed the importance of "finding a voice" in the development of females' selves, minds, and learning styles. Many of the women interviewed by these authors noted a feeling of being "deaf and dumb" during periods of their development.

So...

You should:

- Celebrate accomplishments and the voice of women in presentations and activities.
- Provide male and female students with equally comfortable forums to voice their thoughts and opinions.
- Minimize students interrupting each other. Allow individuals to offer opinions and answer questions without interruption.

Male Developmental Difference

Experts have recently blamed education reforms for missing developmental needs of boys (Conlin, 2003; Kindlon & Thompson, 1999; Pollack, 1998). Conlin (2003) writes: "It may still be a man's world. But it is no longer, in any way, a boy's. From his first days in school, an average boy is already developmentally two years behind the girls in reading and writing. Yet, he is often expected to learn the same things in the same way in the same amount of time. While every nerve in his body tells him to run, he has to sit still and listen for almost eight hours a day." Early in school, it often takes boys longer to learn names for things like colors and shapes. They are generally more active, unrestrained and slower to develop impulse control than girls (Kindlon & Thompson, 1999).

These differences may lead to higher diagnoses of learning disabilities among young boys, academic underachievement, shame for overactive misbehavior, and eventually disengagement from school.

So...

You should beware of overlooking developmental needs of boys as well as girls. Presentations and activities should:

- Accommodate both active and inactive students.
- Consider using pictures rather than names to communicate meanings when working with younger audiences.
- Avoid publicly shaming boys and girls or setting stereotypical expectations for their behaviors.

CULTURAL CHARACTERISTICS

Cultural differences are around us everywhere. It is important that we be aware and sensitive to the needs and differences that a diverse population brings to a field day. The following information about cultural communication patterns is condensed from Elliott, Adams, and Sockalingam (1999) and others. Be aware that these are research-based and helpful generalizations, which will not hold true in all cases. When possible, you should work with members of different cultures when planning field day events and presentations. For more information on cultural characteristics please download the full report:

Communication Patterns and Assumptions of Differing Cultural Groups in the United States (1999) by Candia Elliot, Diversity Training

Associates; R. Jerry Adams, PhD, Evaluation and Development Institute; and Suganya Sockalingam, PhD, Office of Multiculteral Health, Department of Human Resources, OR. Available from www.awesomelibrary.org/multiculteraltoolkit.html.

Other useful websites:

http://shiva.tcs.tufts.edu/cgi-bin/berger/secondary.pl?category=13&sub_category=168

The Child and Family WebGuide provides gateways to research and information on multicultural education.

http://www.ediersitycenter.net/audiences/audiences.php

The National Extension Diversity Center provides historical and cultural information for reaching various cultural groups.

http://www.edchange.org/multiculteral/index.html

The Multicultural Pavilion provides definitions, information, printable handouts and activities to help organizers and presenters prepare for effective multicultural education.

http://www.mhhe.com/socscience/education/multi/activities.html

Activities to help organizers and presenters understand and prepare for effective multicultural education.

Some General Considerations for Teaching Multicultural Audiences:

- Be flexible. Starting and/or ending "on time" may or may not be more important than waiting for everyone to arrive. Being late is not always bad.
- If you are unfamiliar with a group, start by asking indirect questions "Can someone answer…" Avoid pointing directly at individuals, or charging them with misbehavior in front of their group members.
- Have patience to wait for answers. If needed, follow up the old adage of singing Mary had a Little Lamb or Happy Birthday under your breath to keep from chiming in.
- A student looking at the ground or doing something else is not necessarily ignoring you. Direct eye contact may make them uncomfortable.
- Match your animation and emotion to your students.
- Ask students to consider the group and themselves when making decisions or answering questions.
- Be especially respectful of older students and authority figures.

General Communication Patterns for Some Common Cultural Groups in the United States

Black Americans

Animation/emotion:

Genuine communication is passionate and active, full of body motion. There is emphasis on non-verbal communication, argument and debate of personal beliefs.

Directness:

Educators should maintain a sense of control, and push their groups to achieve. Personal relationships with students are valued. Face directly and look into a person's eyes when charging misbehavior.

Eye contact:

Make direct, extended eye contact when speaking. However, eyes may diverted when listening.

Identity orientation:

Individuals define themselves in relation to their families, friends, ect. It is important to consider these groups when making personal choices.

Turn taking and pause time:

People speak when inspired, often pausing briefly during discussions and interrupting others. But group status and ability to communicate play a role in who speaks first.

Time:

Time is more relaxed, flexible. Presentations tend to start and end when the group is present and feels ready.

American Indians

Animation/emotion:

Communication may be reserved even when the subject is important. Self-control is valued. Body motion is usually restrained. Although story-tellers may be more animated.

Directness:

Group elders will something be direct with youth. But educators should ask questions and make requests indirectly, providing students means of declining something uncomfortable without saying "no". Charges of misbehavior may simply be ignored if deemed untrue.

Eye contact:

Avoid direct, extended eye contact—a side-by-side orientation with other people may be more comfortable. Look at students' throats and foreheads when speaking. Listeners also tend to divert their eyes when listening.

Identity orientation:

Family, ancestors and other group members are important to how individuals define themselves. It is important to consider these groups when making personal choices. However, individual differences are also well-respected.

Turn taking and pause time:

In formal gatherings, each person is usually provided a chance to speak in turn without interruption. Elders will usually speak first, and people will tend to pause for awhile to think before speaking.

Time:

Time is more relaxed, flexible. Presentations tend to start and end when the group is present and feels ready. Time may be felt differently from one occasion to another. There can also be an understanding that different beings have their own sense of time.

Anglo or European Americans

Animation/Emotion:

Communication tends to be reserved and logical. There is an emphasis on verbal discussion of beliefs, opinion and intentions.

Directness:

Educators can ask questions and make direct, rational requests. But they should act calm and welcoming in conversation, even when charging misbehavior, to maintain a sense of credibility and self-control.

Eye contact:

Speakers in formal gatherings make intermittent eye-contact with various audience members. Listeners look directly at the speaker.

Identity orientation:

Autonomy and equality are important to how individuals define themselves. There may be a sense of "sameness"—that everyone else should hold similar feelings and belief. It is important to value individuals and self-sufficiency.

Turn taking and pause time:

In formal settings, group leaders or teachers tend to control the order of speakers through raised hands, eye contact, etc. People speak in

turn, often with little or no pause time between speakers.

Time:

Time tends to be linear—past, present, future. Meetings and presentations tend to start at an appointed time. Arriving late to a gathering is not well-respected.

Asian Americans

Elliott, Adams, and Sockalingam (1999) explain: "'Asian' is a very broad term, encompassing people from southern India to Indonesia to northern Mongolia." Asians compose a wide range of cultures. However, the following information applies primarily to northern Asians from countries like China and Japan.

Animation/emotion:

Communication tends to spiral around rather than moving straight to the point. Reserved, relatively quiet conversation tends to be valued. Passionate expressions of emotion and animation may result in a loss of respect.

Eye contact:

Avoid direct eye contact, especially with elders or others of high status.

Identity orientation:

Family and ancestors are important to how individuals define themselves. It is important to consider family when making personal choices.

Turn taking and pause time:

People tend to pause awhile to think before answering.

Time:

Time tends to be perceived as cyclic.

Hispanic Americans

Elliott, Adams, and Sockalingam (1999) point out that there are many cultures in America of Latino and Spanish descent. They caution: "In short, if persons have cultural roots in Mexico, more should be learned before referring to them with any single term. If persons have a cultural heritage from Latin America, 'Latin' is an appropriate term. Otherwise, 'Hispanic' is the most widely used nomenclature at this time."

Animation/Emotion:

Levels of animation and emotion may depend on others present. In groups with unfamiliar people, communication may be somewhat reserved. With familiar people, however, communication may be more passionate and animated.

Directness:

Personal relationships and familiarity with students are valued. So, directness will vary depending on the familiarity of group members. Educators new to a group may take a low-key and indirect approach to conversation and charging misbehavior.

Eye contact:

Direct eye contact is avoided when speaking, especially with elders and other persons of authority. Listeners may also divert their eyes as a sign of respect.

Identity orientation:

Individuals define themselves in relation to their families. It is important to consider them when making personal choices.

Turn taking and pause time:

This varies by culture and may range from relatively short to long pauses between answers.

Time:

Many activities may operate at once with priority given to those deemed most important to core groups like friends and family.

PLANNING FOR PARTICIPANTS WITH SPECIAL NEEDS

The Americans with Disabilities Act of 1990 guarantees equal opportunity for individuals with disabilities. It states that no qualified individuals with a disability shall be excluded from participation in programs or activities of a public entity. What does this mean for field days? Strive to ensure that your field day is an accessible event. Whether you are a field day organizer, a presenter, or a participating teacher, there are things you can do to make the event accessible.

Example: After visiting a potential event site, you find that although the building, educational space, and restrooms are accessible, a portion of the trails are not—the site has a mowed trail through a hilly area. But, you have several individuals with mobility issues that will be attending. What should you do? Adapt portions of the event to take place at the accessible parts of the field day site. In place of offering a traditional nature hike, have a presenter bring participants outdoors to observe the natural area from one spot where all may readily view, take in, and experience the habitat.

The following websites provide additional and specific information and ideas for teaching youth with special needs:

www.urbanext.uiuc.edu/specialneeds/index.html

The University of Illinois Extension Service provides detailed information and resources for working with youth who have epilepsy, cerebral palsy, visual or hearing loss, and other needs.

www.as.wvu.edu/~scidis/

West Virginia University provides strategies, organizations and resources for teaching youth with attention, behavioral, communication, motor and other special needs.

Guidelines for Some General Needs You Might Encounter

Physical Impairments

Participants may have physical impairments that result in mobility issues. A variety of conditions like cerebral palsy, muscular dystrophy, and childhood accidents can give rise to these conditions, causing partial or total loss of movement in one or more limbs. Your participants may move more slowly, and use wheelchairs or crutches to assist them.

- Consider allowing more time in your presentation to complete activities or modify activities so these students can participate normally.
- Ensure there is a wheelchair accessible ramp into any indoor site, and an elevator between floors. Try to host outdoor programs along hard-packed dirt or gravel trails. Wheelchair accessible trails and hallways should be at least 36" wide with plenty of space to turn around.
- In a multi-story building, consider using the main floor (if accessible) to hold activities/sessions.
- Always ask before touching a participant's wheelchair or crutches. This is considered a part of his or her body.

Deaf or Hearing Impairments

Participants may be partially or totally unable to recognize sounds. Hearing loss can range from difficulty hearing faint noises to total deafness, and may be isolated to one ear. Deaf participants may also have speech difficulties.

- As a presenter, realize that it is important

for a deaf person to see your face. Make sure your presentation area is well lighted. Arrange your audience or group so that everyone is visible.

- Animate your body language more. Smile, laugh and look positive.
- Enunciate your words clearly.
- Avoid long lectures or group discussions. Try to process your content through written work, diagrams and models.
- Include plenty of activity, visuals and other sensory items in your activities because these students use sight, touch, and smell to explore and understand.
- Consider working with a volunteer or co-presenter who is fluent in sign-language.
- Many field days use a horn to rotate groups to the next session. One idea is to also provide a visual signal or instruct someone in their group to provide assistance to those with visual impairments.

Visual Impairments

Individuals may be partially or totally unable to see the world around them. Resulting from birth defects, infections, accidents and other factors, visual impairment can range from inability to see colors or resolve fine details to total loss of sight. Participants with visual impairments will require various levels of assistance with movement around your field day and presentations.

- Introduce yourself vocally to the group and personally to the individual.
- Call participants by name when asking them questions, requesting input or help with an activity.
- While it is not necessary to avoid visual language like colors, you should vocally describe things you show or do, and try to incorporate taste, touch, smell, and sound into your presentation.
- Animate your voice more to convey excitement and emotion.
- Avoid making loud or unexpected noises. Explain what you are going to do before you do it.
- It isn't necessary to speak louder—this is an unconscious tendency of many people.
- Do not pet or touch a guide dog, as they are working animals. It can be hazardous for the person if their dog is distracted.

Attention Deficit Disorder (ADD)

Participants may have a difficult time sitting-still, paying attention and controlling their impulse behavior. Conditions may range from mild squirming and interruption to difficulty with instruction, impoliteness with others and excessive talking.

- Try to avoid long lectures. Plan plenty of activities into your presentation.
- Minimize distractions by covering or putting away visuals, models or other items until you need them.
- Watch for restless learners, and involve them in your presentation—helping to hold visuals, demonstrate activities, etc.
- Identify and celebrate good behavior rather than punishing misbehavior.
- Give brief and clear direction, repeating it calmly if needed.
- Encourage your learners to complete activities in small groups. Pair participants with others with whom they are comfortable.
- Design your presentation with an individual and flexible timeline. Let learners progress through activities at their own pace and order.

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COMPARISON OF DIFFERENT DIETS

Mealtimes can be one of the most important social components of your event, with children, teachers, volunteers, and presenters sharing and processing information together. However, food provided at meals may inadvertently exclude some students from the event because of their dietary needs. Moreover, they may be left feeling hungry or sick for the remainder of the event. It is often easiest to ask that participants pack meals, placing them in charge of meeting their needs. But you can use the diet summary below to guide any meals provided during your event. Also remember to take into consideration any religious practices that may influence how people eat at certain times of the year.

DIET	DEFINITION	POTENTIAL MEALS AND RESTAURANTS
COMMON	A person who eats meat, dairy, vegetables.	Wide variety. Any restaurant.
DIABETES	A person with an autoimmune disease in which the pancreas makes little or no insulin, resulting in high blood-sugar. Formerly called insulin-dependant or juvenile onset diabetes.	Wide variety—think of the normal healthy, balanced dietary recommendations including low fat, low sugar, and low salt with plenty of fruits and vegetables and meals based on starchy foods. A common misconception is that diabetics must completely avoid simple carbohydrates—candies, cakes, etc. More recent guidelines simply suggest that diabetics maintain a careful count of complex and simple carbs.
WHEAT ALLERGY	A person who is allergic to wheat gluten.	Wide variety—think common meals minus bread and other grain products.
CORN ALLERGY	A person who is allergic to corn products.	Wide variety—think common meals minus corn products. It may be helpful to omit sweets or products containing a lot of corn syrup from meals.
PISCO VEGETARIAN	A person who eats no meat but fish/seafood.	Wide variety—think vegetarian meals.
VEGETARIAN	A person who does not eat beef, poultry, pork or fish/seafood.	Wide variety—think common meals without the meat. Subway, Pizza Hut, Taco Bell, Burger King, and others have vegetarian meal options.

DIET	DEFINITION	POTENTIAL MEALS AND RESTAURANTS
LACTO VEGETARIAN	A person who does not eat beef, poultry, pork, fish/seafood or eggs.	Wide variety—think common meals without the meat, noodles, some bread, and usual desserts. Subway, Pizza Hut, Taco Bell, Burger King, and others have viable meal options.
OVO VEGETARIAN	A person who does not eat beef, poultry, pork, fish/seafood or dairy.	Some options—think common meals without the cheese and milk. Beware of products like "whey" and "lactylate" which may be dairy derived. Some products from Pizza Hut, Taco Bell (e.g., thin crust veggie pizza and bean burritos with no cheese) and other restaurants are fine if cheese is omitted.
LACTO-OVO VEGETARIAN	A person who does not eat beef, poultry, pork, fish/seafood, dairy or eggs.	Same as above. Potential meals include salads, veggie wraps, veggie burritos, beans and rice, etc.
VEGAN	A person who does not eat meat, dairy or eggs of any kind. Also refrains from eating honey or using products made of leather, silk, wool, down, or pearls or any other animal products.	Fewer options, similar to above. Beware of products like "whey" and "lactylate" which may be dairy derived. Potential meals include salads, veggie wraps, veggie burritos, beans and rice, etc. Taco Bell and Pizza Hut both have vegan meal options.

Internet sources for diet and allergy information:
1Up Health http://www.1uphealth.com/health/food_allergy_info.html
CNN.com Health/Library http://www.cnn.com/HEALTH/library/DA/00050.html
Diet information http://www.diet-i.com/diabetic-diet-tips.htm
Joslin Diabetes Center http://www.joslin.harvard.edu/education/library/nodiet2.shtml
Planet Veggie http://www.planetveggie.co.uk/definitions.htm
Guide to Fast Food Vegetarian Menu Options available from http://www.vrg.org/catalog/ff.htm

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5. Best Practice: Plan Your Setting for Effective Education

BACKGROUND

The setting for your event can provide many opportunities or challenges as you plan activities. A well-chosen site can provide a unique, inspiring experience for students. Your event layout can influence interactions among participants. Moreover, participants should feel a sense of safety and belonging at the event before they can learn effectively. They will also experience novelty (reaction to the new environment) at field day events. Some studies suggest that participants can be distracted from learning by a new environment, and must expend some energy exploring their surroundings before they are ready to attend to tasks and to effectively learn. Other studies suggest that participants may be unable to concentrate on learning if the environment is perceived to be unsafe or uncomfortable.

Therefore, it is important to find a setting that supports your theme and inspires students. Be familiar with your setting and plan for anything that may arise. Choose a site and design an event layout that minimizes novelty and meets the needs of your participants. They will be better equipped to focus on learning.

WHAT THE EXPERTS SAY

- Event and presentation settings should be designed to facilitate the activities being presented (Falk, 1983; Griffin & Symington, 1997; Martin, Falk & Balling, 1978; Orion & Hofstein, 1994; Rudman, 1994; Rutledge, 1985).
- Participants should feel a sense of safety and belonging before effective learning can take place (Orion & Hofstein, 1994; Rutledge, 1985).
- Students may perceive contradictions between themes presented and how presenters behave in the field setting. Presenters and the event design should exhibit behavior consistent with the theme. (Brendtro, Brokenleg & Van Brockern, 1990).

"I am just ecstatic," Morris began. "As a participating teacher, my first concern is that my kids are comfortable and learning. So, I was pretty leery of bringing them to an outdoor event in the woods. We're from the city, and most of my students haven't spent much time outdoors. I was afraid they would be pretty uncomfortable, swatting mosquitoes, getting frustrated. But, Chris worked with me to make sure things were all right." Chris, an event organizer, continued, "Two years ago, we discovered that teachers like Morris were skipping the event. But we wanted to make sure that it was open to everyone, so we made some changes. We now provide all visiting teachers with a backpack containing copies of the emergency plan, a can of bug spray, some trash bags, a couple of extra jackets and ponchos. We re-located all presentations right on trails. Our presenters discuss anything that students might fear, and ask students before making them to touch unfamiliar objects. Groups like Morris' get a short guided tour of the event before it begins." Morris finished by saying, "It was great. We'll definitely be back next year."

- Children in new environments are distracted and must expend energy to learn about their surroundings before they are ready to attend to tasks and learn (Kubota & Olstad, 1991; Orion & Hofstein, 1994; Rudmann, 1994).
- An appropriate event site can actually improve learning. However, you must beware of overdoing it. For instance, one study concluded that urban students may express a number of fearful responses to nature, which can impede effective learning (Bixler, Carlisle, Hammitt & Ford, 1994; Wal, 1994).
- The layout of your setting should follow established behavior patterns of participants (Rudmann, 1994).

IMPLICATIONS FOR PLAYERS

Organizers

- Select a unique location for your event that: 1) may inspire students; 2) includes all resources needed to actively facilitate your theme, meals, pre- and post-event discussions, etc.; and 3) will not distract your participants—no extraneous noise, interruptions, etc.
- Visit the site before laying out your event to observe how visitors behave (e.g., travel patterns, meeting areas, etc.). Make sure the design follows your observations.
- Whether your field day is located in an indoor or outdoor setting, or a combination of both, select an event site that is accessible. Consider your needs as well as those of participants, making sure the facilities at your site accommodate any special needs.
- Visit with the manager or contact person about the accessibility of the site. Inquire about whether the buildings (and their entrances, exits, and bathrooms) are accessible. Inquire about the accessibility of the outdoor environment as well—such as the trail system.
- Complete a risk assessment for the event. Plan an emergency procedure that: 1) ensures you have trained first aid staff on site during the event; 2) communicates the plan and the location of the first aid kit to all players; and 3) ensures that parents and teachers are aware of any risks before arriving for the event.
- Design your site to encourage environmentally responsible practices among all players (e.g., recycling, composting, proper trail standards, etc.).
- Maintain manageable student groups for presenter comfort. Depending on the size of presentation sites, a group of 15 to 20 is usually manageable.
- Group participants with friends, relatives, and classmates to maintain a sense of belonging.
- If possible, plan a classroom pre-visit, or show slides, pictures or a video to familiarize students with your event setting in conjunction with introducing the event theme.
- Create plenty of signs, good maps, and orient all presenters, teachers, volunteers, and participants to the site, event layout, and rotation of groups through presentations before beginning activities.
- Plan a way to signal all participants, presenters, volunteers, and teachers when it is time to rotate.
- Plan behavior expectations, areas that students will be using, and any areas that are off limits. Communicate these to all players before presentations begin.
- Make all players aware of where bathrooms and other presentations are located before the event begins.

- Plan to meet the buses and orient the students to the site as they arrive.
- Allow students time to explore the site. If possible, include a "recess" during the beginning or middle of the event or a presentation-free period to allow exploration breaks.
- Have name tags for students and presenters.

Presenters

- Check out your assigned location and make sure that it fits your needs and your presentation goals, for example if you need running water or need to be near the bog, etc. If possible, visit before the event.
- Plan your activities to take advantage of the site. Motivate students to explore their surroundings.
- Inquire of event organizers if they are aware of any participants with accessibility needs. If so, plan or modify your presentation with activities that all will be able to take part in and learn from. Consider alternate activities and exercises that can be utilized with less difficulty for participants, but have the same or similar learning experiences.
- Make sure that you know where other presenters, bathrooms, etc. are located in relation to your site.
- Know what station the students come from and where they are going when leaving your station.
- Know the emergency plan and locations of supplies for weather and injury.
- Know your behavior expectations, areas at your site that students will be using, and any areas that are off limits. Communicate these to participants at the outset of your presentation.

Teachers

- Notify field day organizers if any of your students have accessibility needs and any accommodations that may be necessary. This will allow presenters and organizers to properly prepare for modifications that need to be made in order to enhance the participant's learning experience.
- Introduce your students to the site, theme, and ideas of the field day event before attending. Stress that the event is not a fun day and it is a serious learning experience.
- Bring student health and contact information to the event in case of emergency.
- Make sure that you have maps and schedules for the day at your disposal.
- Be aware of the safety plan and location of first aid kits.
- Make sure that you know where all presenters, bathrooms, etc. are located in relation to the site.
- Plan some structured ways for students to explore the new environment when you first arrive at the event (e.g., a five minute scavenger hunt, maps to label with adult help, etc.).

Adult Volunteers

- Make sure that you know where all presentation sites and bathrooms are located, and how to get to each.
- Make sure that you have maps and schedules for the day at your disposal.
- Be aware of the safety plan and location of first aid kits.
- Help students to explore the new environment when you first arrive at the event (e.g., a five minute scavenger hunt, maps to label with adult help, etc.)

WORKING TOGETHER

- Organizers and presenters can collaborate on site selection and design. It will be helpful for the organizers to visit the site with some of the presenters for observation and planning.
- Organizers can also create detailed maps based on their site survey for scrutiny by presenters and teachers. These maps can include natural or indoor features of the setting, as well as potential hazards, etc. Teachers and presenters can provide feedback about potential meal and presentation locations. For large events with many people involved, organizers might e-mail or mail these to a few presenters and teachers for comment.
- Organizers should budget for tables, tarps, tubs, etc. required by presenters to design an effective learning setting.
- Organizers should ask presenters, teachers, and volunteers trained in first aid to help draft the safety plan and act as part of a safety response team.
- Presenters can help organizers reduce novelty by committing time to visit a class prior to the event to familiarize students with the setting, structure, and activities.
- Organizers, volunteers, and presenters should arrive early at the site to help place signage and organize activity sites.

PRACTICAL TIPS

- Know your presenters' speaking styles. Try not to place two presenters in conflicting proximity to each other (e.g., a quiet presenter next door to a very loud and boisterous presenter).
- Teachers unfamiliar with an outdoor event setting may be wary of a planned, unsupervised free period. This can be mitigated, however, by asking a presenter or training volunteers to lead structured outdoor explorations. Simply plan this recreational period as another presentation that participants will have during normal rotation.
- Exploration at indoor events can be facilitated by creating an exploration center where numerous volunteers and presenters can host displays, learning games, contests, etc. that students can freely explore.
- Take time during your introduction to help teachers and students to follow the map in the right direction.
- If you host an annual event in the same setting, it will be worthwhile to laminate a set of event maps. This way, materials can be provided and collected each year with no waste—an implicit lesson in conservation.
- Use professional copiers to enlarge signs printed on 8.5"x11" paper to poster size and laminate them. On color paper, these signs are much more visible. Hardware stores also often sell corrugated plastic sign blanks and posts. Use sticky plastic lettering on these blanks to make a more lasting sign.
- Place obvious bins onsite for food scraps and recycling bins for soda cans if participants eat at your event. You might also consider providing biodegradable silverware, etc. It is usually easy to find a volunteer, area community garden program, or waste management facility that will take the resulting material.
- Assign a volunteer to handle waste and recycling. Communicate expectations for responsible behavior to all presenters, teachers, and volunteers before the event.

- Check room temperatures and feel for floor temperatures at indoor events. Make sure that students will be comfortable sitting in large groups for activities.
- Check the pre-event weather and plan accordingly. Have a rain plan. Place water coolers at some presentation sites to ensure hydration (have students keep a single recyclable cup); make sure there is plenty of shade in the meal area; bring a roll of trash bags if looks like rain; bring extra hats and mittens if it looks cold; etc. Ask presenters to dress appropriately for the weather.
- Teachers should ask students to bring bug spray. However, they should spray it on before activities begin. (Ask teachers or volunteers to collect and keep the spray.)
- At outdoor events, presenters should orient activities so the sun shines in their eyes rather than those of students. Presenters should look for "natural stages" at their outdoor activity sites (hills, rocks, etc.) to place them in view of all participants.
- At indoor events, make sure that lights are bright but glare is reduced. When indoors, orient chairs to focus attention on the presentation.

NATURE FEARS AND DISCOMFORTS

Choosing a unique and natural site can make your event more memorable and engaging for participants. However, it can also leave students feeling uncomfortable and unable to focus on learning, especially when nature is very unfamiliar. Results of a study of Detroit, Michigan students by Arjen Wals (1994) found that inner city students perceived woodlands as "threatening" while suburban students found them "challenging." Bixler, Carlisle, Hammitt & Floyd (1994) asked 48 interpreters from urban nature centers east of the Mississippi River to recall fears and discomforts expressed by students on their field trips. In support of this study, they noted the following research findings:

- "Persons with no previous experience in wildland areas will be overwhelmed by the sheer number of unrecognizable objects, smells, sounds, and situations even when no immediate dangers, such as snakes or killer bees, are present."
- "Although extreme environmental novelty plays a role in the avoidance of natural environments, people do learn to fear specific natural objects and associate dangerous events with wildlands."
- "For individuals never exposed directly to natural environments, their interpretations of these complex and dynamic areas must be based on whatever they have learned from indirect sources such as horror movies, amusement parks, television shows, zoos, museums, and the classroom."

They ranked the top 23 fears noted by nature center interpreters:

1. Snakes
2. Insects
3. Nonindigenous animals
4. Plants
5. Getting lost
6. Dirt or mud
7. Spiders
8. Strangers/people
9. Personal discomfort
10. Touching
11. Woods
12. Mammals
13. Ticks
14. Trail related fears
15. Weather
16. Water
17. Sounds
18. Birds
19. Aquatic animals
20. Invertebrates
21. Nighttime
22. Smells
23. Animals

While this study was confined to urban students, the fears noted by nature center interpreters

provide a good benchmark for working with all children outdoors. Event organizers and presenters should help minimize students' fears and concerns in a number of ways:

1. Try to find out students' ages and a little bit about their past experiences in nature. Younger students and those with less experience may be more fearful. So, organizers and presenters may take extra time orienting these students to the setting.
2. Ask teachers about landscapes where students live. If students do not grow up near natural area, or live in high-crime neighborhoods, they may be uncomfortable in natural settings.
3. Wals (1994) notes that students who perceived natural areas as threatening tended to seek out familiar things like trails, stores, nature centers, and picnic tables to help them feel comfortable. Consider placing presentations along trails, at picnic areas, and other familiar areas. Make sure that students know where these things are located on your site before they begin presentations.
4. Plan presentations in relatively open areas that allow students to be near their friends and leaders.
5. Acknowledge and help students through any fears they express. Demonstrate activities yourself or with a group leader and do not force participation if they are uncomfortable.

RISK MANAGEMENT

You can never be too careful about safety when organizing and presenting at field day events. Sunny skies, clear trails, open fields, and happy students make accidents seem unlikely. In fact, you may never have a participant injury in years of field day presentation. But it only takes one incident to spoil an event for years, not to mention liability, your feelings, and feelings of others involved. Careful identification of hazards and figuring out ways to manage them ensures that the possibility for accidents is minimized. It guarantees an incident will be handled responsibly. It helps you give participants a safe and worry-free learning experience.

The SafeCon Risk Assessment Model, developed by Curtis (2002), is a logical way for you to measure risk and prepare ways to manage it. According to Curtis, you should think of risk assessment/management as a sort of balancing scale. The more risks or *hazard factors* you identify, the higher the risk level. Higher risk levels necessitate planning more safety factors or ways of managing these risks.

You should begin by brainstorming all possible risks associated with the event, potentially during a pre-event site visit. It may be helpful to list these under three hazard categories:

1. Things that could happen in the natural environment.
2. Things that could happen when people use equipment. and
3. Things that people could do to themselves or others.

Next, you can identify safety protocols, rules, first aid supplies, and other ways of dealing with all identified hazards.

So...

Consider three major hazard factors:

1. Environment: outdoor weather may include snow or thunderstorms, rain, muddy spots on trails, downed limbs, beehives, etc. Indoors may involve staircases, closets with cleaning supplies, boiler room, etc.
2. People: running, pushing, throwing things,

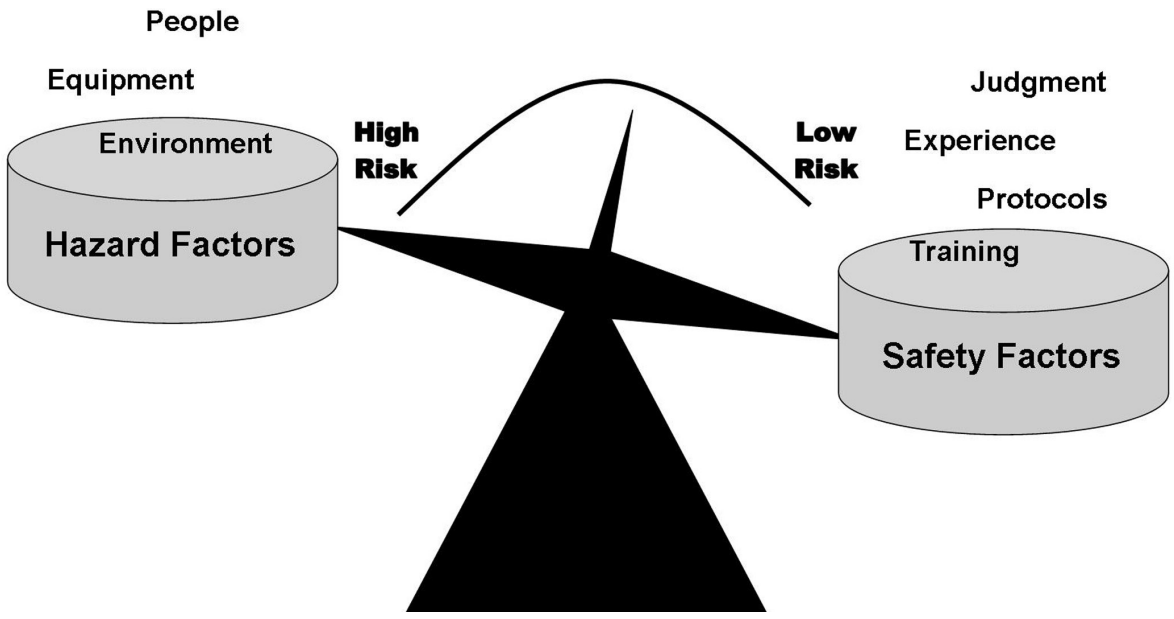
allergic reactions, vomiting, leaving the group, entering places named as being off limits. Also consider people not directly involved in the event like a divorced parent trying to take her/his child without consent of court, etc.

3. Equipment: scissors, saws, knives, glass, chemicals, electricity, etc.

Then, tour your event or presentation site, making a list of potential hazard factors, even those that seem unlikely such as a forecasted 20% chance of a thunderstorm. Then devise safety factors for all hazards identified. These may include:

- Clearly describe some of the event hazards in participant registration forms.
- Set clear behavior policies for the event and use of equipment during presentations.
- Post warning signs.
- Ensure that you have a first aid kit and staff trained in first aid at the event.
- Use accident report forms.
- Devise a foul-weather warning system.
- Mandate that teachers must approve before any student leaves early with another adult.

FIG. 5: Effective risk assessment/management weighs careful safety measures against potential hazards. Hazards that may happen at a field day should be counterbalanced with more safety plans. Hazards without significant safety plans create a higher risk environment. (Curtis, 2002)



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6. Best Practice: Use Experiential Teaching Methods

BACKGROUND

In a field or outdoor setting, learning is enhanced when students are exposed to hands-on, inquiry-based experiences. Called "experiential education," this teaching method engages young people, creates a fun, hands-on environment and helps students apply their new knowledge in other settings. "Experiential learning takes place when a person is involved in an activity, then looks back and evaluates it, determines what was useful or important to remember and uses this information to perform another activity" (Dewey, 1938). The five step experiential model includes: (Pfeiffer & Jones, 1981)

1. Experience—Doing the activity.
2. Share—Communicate results, reactions or observations.
3. Process—Analyze and reflect on the experience.
4. Generalize—Relate experience to a real world example.
5. Apply—Use what was learned in a different situation.

Teaching becomes an interaction between the leader and student, awakening the learner's curiosity and intelligence. Just providing the experience alone does not create experiential learning. Hands-on activities can provide a way for un-motivated youth to become engaged in learning. It acts as a catalyst or spark to a cognitive mind-set. When combined with high levels of choice, hands-on activities encourage learning.

WHAT THE EXPERTS SAY

- There are differences between learning experiences in classrooms and field trips. (Carlson, 1998; Griffin & Symington, 1997; Ramsey-Gassert, Walberg III, & Walberg, 1994)
- Students' readiness to learn and attitude toward a field trip can affect learning. (Orion & Hofstein, 1994)
- Field trip experiences tend to create short-term memories rather than long-term

"This is great," said Tony, a third-grade teacher. He continued: "You see, Jessica is a quiet kid, not a self-motivated student in-class, but doesn't cause trouble either. Her first station is about macroinvertebretes, and I overheard her complain to Lisa that it would be boring. Then, suddenly out come thirty pairs of rubber boots, dip nets and specimen trays. Her face lights up!" The boots slipped on and into the water went Jessica. She found many creatures and was totally engaged in the session. When it was time to share what the participants in the group found, she was one of the first to raise her hand and want to share. Tony laughed, "I have to compliment the presenter, Denise, for her energy and enthusiasm." Denise answered, "I decided not to play the talking head this year. I flip-flopped my presentation instead, planning it according to the Experiential Model. I asked the kids to do the activities first, then tell me what they learned. No lecture, they seemed to really enjoy it, and learned a lot!"

memories. However, repeated references to field trips in the classroom may enhance long-term retention. (Knapp, 2000)

- Learning involves integration of new information with what we know or believe. (Orion & Hofstein, 1994)
- Learning is a shared experience between teacher and student. (Carlson, 1998; Griffin & Symington, 1997)
- Learning and fun can co-exist. (Carlson, 1998)
- Learning can be enhanced when students feel in control by making their own choices. (Carlson, 1998; Griffin & Symington, 1997)
- Hands-on activities can lead to minds-on or learning. (Carlson, 1998; Dewey, 1938; Pfeiffer & Jones, 1981)
- Self-discovery helps youth to become engaged in learning. (Griffin & Symington, 1997)
- Reflection is critical for engaging learners. (Pfeiffer & Jones, 1981)
- Relevant real-world experiences enhance learning. (Carlson, 1998; Dewey, 1938; Pfeiffer & Jones, 1981)

IMPLICATIONS FOR PLAYERS

Organizers

- Be aware of students' backgrounds and what they have studied in relation to the theme. Try to plan a program that integrates with students' existing coursework.
- Ensure that presenters are aware of how their content integrates with students' existing coursework.
- Consider restating your theme in an inquiry-based format (e.g., "Sustainable forestry practices can generate a healthier forest" becomes "How can we use sustainable forestry practices to generate a healthier forest?")
- Enable presentations centered on a real-world, hands-on project such as restoration of a local prairie. Each presenter can work with students on a part of the process.
- Work with teachers and presenters to create pre- and post-visit lessons that will extend the experience into the classroom.
- Plan enough time for presenters to complete each presentation.
- Budget for materials that can be used to teach concepts in a concrete way.
- Ensure presenters understand and use the Effective Education Methods (see pages XX-XX).
- Plan time for gathering and reflecting on the theme after students have completed the day.
- Make name tags for students to wear. Write the theme on the name tag.

Presenters

- Be familiar with both the Experiential Learning Model (see page 77). Structure your presentation according to these models.
- Ask organizers about the background and knowledge of participating students when planning your presentation. Ask students a few questions during your presentation to assess students' understanding.
- Refer information in your presentation to things that students are studying in the classroom when possible.
- Don't lecture. Engage students in songs, body movements, writing, and/or hands-on scientific activities that model your concepts.

- Spend less time talking and more time asking questions and listening for answers. Use questions that build on where the students are coming from, not what you expect them to know.
- Call students by their names.
- Involve teachers and adult volunteers in your activities. Allow them to interact with and stand close to students.
- Build in a time for reflection to allow students to absorb the new concepts that they have learned.

Teachers

- Try to help students perceive the field day as a serious learning experience rather than fun time out of class.
- Explicitly integrate field day content with students' classroom learning before, during, and after the event.
- Complete pre- and post-visit activities with your students that will extend the learning experience.
- Get your hands dirty with your students.
- Don't give away answers to the questions that the presenter is asking.
- Hold hands or stand close to the students who may not feel comfortable in a free-flowing self-discovery environment.
- Provide classroom management and discipline if necessary.

Adult Volunteers

- Be aware of what is asked of teachers.
- Use discussion between stations to reinforce key points..
- Stay connected to the presenter and don't stand off and talk to other adults.
- Turn off your cell phone; you're there for the kids.

WORKING TOGETHER

- Organizers and teachers should cooperate to ensure that presenters are aware of background knowledge and experience of their students relative to the theme of your event. Organizers should request copies of the curriculum that students will study. Ideally, teachers should also consider presentations that will be offered at the event, and inform organizers of any that will be especially familiar or unfamiliar to their students. Students might also be assessed by a short pre-event survey of knowledge.
- Organizers and presenters should work to create ways for visiting teachers and volunteers to be involved in the education of their students before, during, and after the event (e.g., pre- and post-visit lessons, discussion questions to pose between sessions, etc.)
- All parties should consider attending a pre-event meeting to discuss the event theme and presentation of ideas. They could share background information about students, school curricula, and possible activities that teachers and presenters could teach before, during, and after the event.
- Presenters can help organizers and teachers by committing time to visit a classroom before the event to introduce the theme, describe the field day as a serious learning experience, discuss presentation concepts, and complete an energizing activity.
- Applying the Experiential Model in a field setting is more difficult than it appears. Work with an experienced teacher or presenter to structure the presentation so students make discoveries on their own and connect this new understanding to

other parts of science, their community, or their lives.

PRACTICAL TIPS

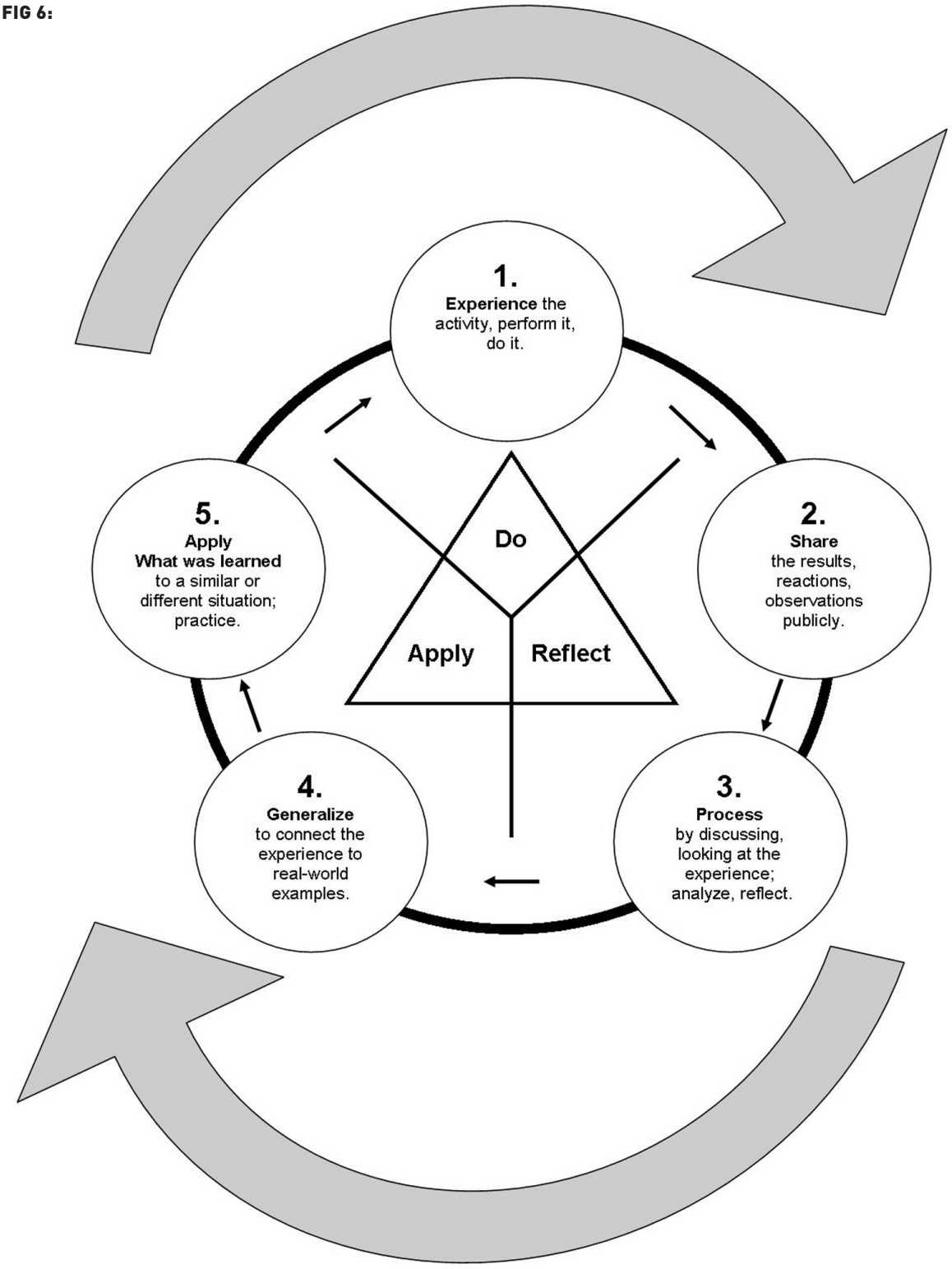
- Create presentation schedules detailed to the minute. Label each section of the schedule with start times for each presentation (not time length). This makes it easy to see at a glance whether you are on track with your plan.
- Reserve 10 to 15 minutes in your schedule for summary. This ensures review time.
- Design your lesson plan with an exciting "grabber" that captures the attention of your students. Set the stage to let the students know they will be exploring an unknown and unraveling a mystery.
- Allow students to work in pairs or teams of three to solve their problem and make discoveries.
- Ask students and help them answer the "so what" question. This type of teaching takes additional time and requires the presenter to be flexible and adaptable to the different learning styles of the students.
- At the end of the presentation, connect back to the field day theme.
- Do not try to bluff your way through it if you are asked a very technical question and are unsure of the correct answer. Bluffing damages your credibility. If you do not know the answer, tell your audience and add that you will get back to them with the answer if they would like.
- Most important, maintain your sense of humor no matter whom you are teaching. Usually what can go wrong will, but a sense of humor often eases even the most awkward situations. Just as learners can be tough on you, they also can be generous.

EXPERIENTIAL LEARNING MODEL

Although there are many models of learning, the Experiential Model is very appropriate to field days presentations. In the words of Carlson (1998): "The model of experiential learning engages youth and encourages learning by doing. Experiential learning takes place when a person is involved in an activity, looks back at it critically, determines what was useful or important to remember, and uses this information to perform another activity." Based on this model, students experience activities at the outset of presentations, discussing and analyzing them afterward. There are five steps to this model described below:

1. **Experience:** Introduce and allow students to complete an activity. Don't get overly involved; allow them to make their own discoveries.
2. **Share:** Ask students to describe what they did, learned, and felt during the activity. Don't guide this discussion. All discoveries should be equally considered.
3. **Process:** Have students identify common threads of the experience. Ask them to determine what was most important about the experience.
4. **Generalize:** Ask students the personal question, So what? How is the experience meaningful to students' lives? What information could they use in their own lives?
5. **Apply:** Have students apply the skills gained from the experience in a new situation. Ask them to describe how they can use what they have learned. (Pfeiffer & Jones, 1981)

FIG 6:



Adapted From: Carlson, S. (1998). The center: today's 4-H connects youth to the world, "Learning by doing and the youth-driven model" 44-47, "Pedagogy applied to nonformal education" 48-53. Minneapolis: University of Minnesota Extension Service.

EFFECTIVE EDUCATION METHODS

The Experiential Model provides a blueprint for designing your field days and presentations. Within this framework, however, it is important to employ research-based and effective education methods.

1. Engage students in detailing their relationships with landscapes and communities. David Sobel (2004), an acclaimed environmental educator, calls this PIMBY (Please In My Backyard) or Place-based education. He notes that a core objective is to "look at how landscape, community, infrastructure, watersheds, and cultural traditions all interact and shape each other." To the extent possible, field days and presentations should focus on and utilize local landscapes, environments and issues. But, this cannot itself constitute effective place-based education. The key is to use your activities as windows through which participants picture relationships between their environments and communities. It is critical to engage them in asking "how do I fit into these interactions."

The following are ways you can integrate place-based education into field days and presentations:

- Build your events and presentations around things participants do from day to day. For example, you might examine agricultural, nutritional or environmental impacts of the lunches they bring to the field day.
- Start with investigating the "here and now" before imagining the "long ago or far away" (Sobel, 2004). Design activities to ensure your participants really understand how they fit into their home landscapes and communities now before generalizing to far away locations and the past or future. It is also advisable to increase your geography of study as students get older. For example, first graders may investigate their schoolyard, 5th graders travel to a county park, and 9th graders go on a field trip across the state.
- Bring the community into your activities. This may include inviting neighbors, government officials, business people and others to your events and presentations. Participants may also imagine fictitious community members, their feelings and reactions to issues based on their past experiences. The important part is to involve them in exploring the ways people around them understand and act differently toward their communities and environments.

2. Clarify the skills you want students to learn and the understanding you intend them to realize. Ernst Von Glasersfeld (1998), an education expert, explains: "Since the days of Socrates, teachers have known that it is one thing to bring students to acquire certain ways of acting—be it kicking a football, performing a multiplication algorithm, or the reciting of verbal expressions—but quite another to engender understanding." He stresses the difference between teaching for understanding and training students to perform skills.

Effective demonstration is an important method for skills training. The National Restaurant Association Education Foundation or NRAEF (2002) suggests using the Tell/Show/Tell/Show model for skill training:

- Start by explaining how students perform the skill, providing written instructions, photos, models, etc.
- Slowly show them how to do it, splitting the skill into manageable steps.
- Ask them to explain in their own words how you performed the skill. Let them ask questions to clarify the actions.
- Have students show you how to perform the skill.

Continue this process, discussing ways to improve their actions, until students can adequately perform the skill.

3. Coach students to build better understandings of their world. Many education experts currently support the idea that "what we call knowledge does not and cannot have the purpose of producing representations of an independent reality, but instead has an adaptive function" (Glasersfeld, 1996). In other words, there is no such thing as independent or true knowledge. We understand and interpret our worlds based on our past experiences, culture, gender, etc. When we encounter something new that we cannot quite explain, we adapt our understanding to fit better—we learn. So, you cannot as a teacher simply transmit or "hand off" understanding to your students. Instead, you must coach them to realize and work through conflicts between their existing models of the world and new insights they cannot explain, creating richer understandings (Fosnot, 1996).

The Experiential Learning Model is structured for coaching understanding. But the following are ways to structure your activities within the model for understanding:

- Try to engender a culture of inquiry among your students. Solicit and celebrate open input from all participants. Stress that there is no single "right way" to solve real-world problems. Celebrate failed explanations as steps to building our understanding (Jarrett, 1997).
- Encourage learners to solve their own problems, design investigations, ask questions, develop and test hypotheses as much as you can. Just give a helpful nudge now and then.
- Be on the lookout for contradictions between participants' explanations and the real-world. Use these conundrums to challenge them, sparking further inquiry.
- Encourage dialogue among students, their volunteers and teachers. Ask them to investigate and solve problems in small groups. Explore together differences between these solutions.

PREPARING TO TEACH

Careful planning will prepare you to teach your best field day. This process of reflection will spur you to integrate what you want to teach, what you know about your learners, yourself and your content, and the activities you want to use into a coherent plan. The following steps are important for preparing to teach at a field day:

Build a Lesson Plan

The lesson plan is your roadmap for teaching. It contains a series of ordered components, each with enough detail to pull you effectively through your presentations (Hunter, 1982 and others).

1. Statement of relevance. A short paragraph or series of bullet points that describe the theme of the field day, any education standards that you will target, and briefly how your activities teach them. While this may not appear in all lesson plans, it will be especially helpful if you are new to presenting at field days. It is also a useful way to communicate your ideas to other field day presenters, organizers and teachers.

2. Statement of learning objectives. A numbered series of the measurable objectives that you intend to achieve through your presentation. It may also be helpful to list activities that teach to each of your objectives.

3. Focus activity. An activity or questions that help students focus on learning. Mastery Teaching author Madeline Hunter (1982) calls these anticipatory sets. She explains: "An anticipatory set also can hook into students' past knowledge and trigger a memory or some practice which will facilitate today's learning. In addition, students' responses may give you important diagnostic information about the knowledge or skills already possessed…." Following the inquiry format, it is recommended that you plan somewhat free-form activities or experiments that move learners to begin asking important questions pertaining to your presentation.

4. Introduction. A short description of yourself, your job, your participants, a review of the theme and learning objectives. Career education is an important part of many field days. But introductions also build your credibility and familiarity with participants. Announcing your theme and learning objectives helps learners understand where your presentation is headed, and take responsibility for their learning.

5. Body. Brief description of activities that comprise the bulk of your presentation. This part of the lesson plan should follow the Experiential Learning Model, and should integrate effective teaching methods.

6. Assessments. A series of the questions you intend to ask, actions you will have students perform, pieces they will write etc. These are critically important to monitoring and adjusting the flow of your presentations and understanding what participants are learning, but extremely easy to overlook. So, it is recommended that you write out your assessments in full after each activity in the body of your lesson plan.

7. Transitions. Short statements that bridge your presentation activities. Although the organization of your presentations may seem obvious, your learners may not readily understand the rationale. A brief review of lessons learned at the end of each activity, and how these relate to the next activity will help participants realize the flow of your presentation. While these transition statements may not appear in all lesson plans, writing them out will be especially helpful if you are new to presenting at field days.

8. Conclusion. A final check for understanding, review of lessons learned, suggestions for action, and integration with the field day theme. The structure of the Experiential Learning Model and the body of your presentation will guide learners naturally toward synthesis and application of your presentation content. But it is important to summarize the presentation, take it full circle, re-visit with your learners the progress they have made. Tie lessons learned back to the theme one last time. Answer questions. Provide ways your participants can really use what they have learned. Like your introduction and transitions, it is helpful to write out this final piece of your lesson plan.

Be Flexible

In addition to careful lesson planning, you should integrate some flexibility into your presentation schedule. Because your participants learn differently, it will always be tough to predict the activities that work best, and the time it will take to complete them. Adverse weather can also affect your field day presentations. So, planning some substitute activities can really pay off. For example, during a session on prairie grass, you could plan a hike at a real prairie site. In the event of rain, however, you could use a song, or show slides to teach learners the names of several species. Even in perfect weather, you may show participants your slide show if they hike quicker than you expect.

Use Accurate Information

In April 1997, the Independent Commission on Environmental Education, after reviewing a number of curriculum resources, reported that "factual errors are common in many environmental education materials and textbooks." They cited complex content, inexperienced and biased authors, and dated information as causes for these errors. When gathering facts and materials for your field day presentations, it is important to check the authors, publishers and dates of your sources. For example, year old statistics acres of corn grown in your state may be outdated and inaccurate. You should also try to name your source authors and dates during your presentations.

Practice makes perfect

Teaching is an art that demands plenty of practice. It is always tough to communicate clearly what is in our heads, and pinpoint the timing of our activities. Whether this is your first time or hundredth time teaching field days, it will pay off to do your presentation or a few activities for a colleague, friend or family member. You can gather their honest critique of your performance, and check their understanding of your key messages. On your own, you can also mentally visualize your presentation to check timing. Imagine everything you will do and say, and the length of time students will engage in activities. Both of these preparations will help you feel more comfortable in front of your participants.

FIELD DAY ACTIVITIES

There is seldom reason to invent new activities for field day presentations. A library or internet search will usually lead to plenty of ideas for teaching your field day theme. Universities, government departments, non-profits and education organizations also provide affordable training in curriculum and teaching activities. Your toughest decision may actually be selecting the best, most effective activities from the mix. Ask yourself questions like the following when selecting your activities:

1. How well does this activity really teach to my field day theme or how do I have to adapt it to make it work?
2. Is this activity really going to teach my participants what I want them to learn (i.e., am I going to meet my objectives)?
3. Am I going to be comfortable teaching this activity? Does it fit with my personal teaching style?
4. Do I have the time, materials and appropriate setting to make the activity work?
5. Will my learners enjoy the activity? Is it fun?

The following are general activities that work well in field day presentations:

Case Studies

Case studies can be used to link your presentation to important issues. "Cases are stories with a message…. They are stories to educate," says expert Clyde F. Herreid (1997). They are tales of real-world events that frame your learners' explorations and application of content and skills. Good case studies establish the relevance of your presentation. Herreid (1997/1998) explains that a good case is recent, general, and tells a story through empathetic characters. A good case forces learners to debate and make decisions. Case studies can be used in a variety of ways useful for field days:

- Introductory stories that focus learner attention and motivation.
- Examples to excite group discussion of key lessons.
- Role Play to understand different points of view.
- Mock-trials or debates
- Expert panel discussions
- A real-world issue to research and solve as a group.

To use case studies, you should:

- Clip articles, tape television news clips, etc. that discuss the case, players and positions.
- Make it short—a few paragraphs.
- Include character descriptions and quotations.
- Make sure everyone understands the facts before debating, discussing, solving the case.

- Provide clear instructions.
- Use easel paper or chalkboards to visually organize your discussion.
- Create worksheets that guide students to explore the case by listing key information like the problem, issue, key players, their positions, their important values, and preferred solutions.
- Focus on interpreting the case with your learners rather than presenting the historic outcome.
- Work with a person who has experience teaching case studies. They can help you facilitate your presentation more comfortably and effectively.

Costumes

Costumes can be used to illustrate different time periods and concepts. For instance, you might dress a student as a plant to illustrate plant parts, or wear a voyageur costume to reflect dress of the past. These costumes can absorb participants into your presentation, extending discussion with visual props. Often a costumed educator will gain more attention and interest from students. However, teaching in costume requires some acting skills.

To use costumes effectively, you should:

- Consider using the costume as a prop. Be yourself, pointing out various aspects of the costume. This way, you maintain your credibility and can answer questions more effectively.
- If you present in character, ask another presenter to introduce you and your objectives to students.
- Consider clothing, sounds, smells, make-up, and lighting when creating your costume.
- Create a character (e.g., "Freddy the Fish" is more identifiable than "fish").
- Stage a dramatic entrance with initial actions and words that really grab your audience
- If dressing a student, let them put on the costume themselves. Always be aware of touching the student in any way that could be confused as inappropriate.

Games and Competitions

According to education experts, Judy Braus and David Wood (1994), games and competitions can motivate and excite students, serve as good transitions between one presentation theme and another, and teach effectively when focused on specific knowledge and skills. Games and competitions provide fun ways to introduce key ideas in your presentations. They can be used in a variety of ways useful for field days:

- A quiz show that reviews learners' knowledge of key facts.
- A bingo game that motivates participants to look for important objects or details.
- A competition to perform skills adeptly or quickly.
- A game that helps students experience and understand complex concepts.

To use games effectively, you should:

- Start by explaining the learning objectives you intend to meet through the game.
- Try to stress competition against an ideal—100 percent correct on a knowledge quiz, or perfect performance of a skill—rather than competition against other learners.
- Follow the tell/show/tell/show model to introduce the game and your instructions. Give instructions a few steps at a time.
- Run your game a number of times,

allowing participants plenty of practice rounds and chances for success.

- Plan carefully and reserve time to debrief your game or competition. Help your participants reflect on and detail key lessons learned.
- Provide a reward for everyone who participated.

Live Animal Presentations

According to experts, Regnier, Gross and Zimmerman (1994): "A live animal can be an unforgettable addition to your program…. Live animals are a catalyst for real understanding because they offer the chance to learn facts while experiencing them." Animals often illustrate concepts more effectively than any other prop. Students also connect emotionally with living things. However, live animals are best introduced at the middle or conclusion of presentations. If shown earlier, the novelty of your animal may interfere with students' concentration on the remainder of your material.

To use live animals effectively, you should:

- Make sure you have the appropriate permits, training and equipment to legally show the animal. Consider working with an expert.
- Before introducing the animal, carefully outline behavior expectations that shield it and your participants from injury. Remember to include and immediately enforce consequences for misbehaving.
- Avoid over-humanizing the animal.
- Take advantage of the "teachable moments" offered by the animal's behavior toward the group.
- Preserve plenty of time for each student and volunteer to interact with your animal.
- Be aware of allergies that students may have.

Storytelling

Storytelling is a powerful method for enlivening your presentation. Regnier, Gross & Zimmerman (1994) note: "Stories arouse emotions and interest about history and nature. They humanize and give insight into otherwise sterile subjects." Stories can be an effective means helping participants compare and empathize with various cultural beliefs, values, and attitudes. They are often great introductions that grab students' attention.

To use stories effectively, you should:

- Choose stories that are relevant to your participants and help you achieve your learning objectives.
- Research the background information, characters and practice to become comfortable telling the story.
- Make it personal. Avoid reading or speaking from memory the exact words of a written story. Describe the events and images of the tale in your own words.
- Speak loud, clear and slow with plenty of pauses. Try to convey emotion through your voice and gestures.
- Keep it short—5 to 10 minutes.
- Consider allowing your learners to participate in the storytelling. Have them draw the setting and characters, ask them to name characters, or predict how they will act based on characteristics you supply them.
- Plan time to reflect with students on the key lessons learned from in the story.

Overheads, PowerPoint Presentations, Videos and Other Visuals

Overheads, PowerPoint presentations, videos, other visuals can be used effectively to introduce, illustrate, relate and summarize key ideas in your presentations. They can extend your personal

presentation and activities by picturing distant locations and times, including expert opinions, imaging and manipulating abstract concepts. However, it is important to note that these visuals should never be used to replace your personal involvement in a presentation. Appropriate media should be selected to enhance learners' achievement of your learning objectives

To use visuals effectively, you should:

- Research and become familiar with the strengths and weaknesses of different visual media. Choose the ones best suited to your learning objectives.
- Keep your visuals short and pointed. Show important pieces of video rather than the whole thing. Create a few short overheads or PowerPoint slides to illustrate key points.
- Design your visuals to support what you say and do. Avoid creating visuals that re-state word for word your presentation.
- Turn off or mask your visuals when not using them to keep from distracting your participants.
- Explain your visuals before using them. Tell your participants what they will learn and why it is important.
- For videos and PowerPoint presentations, you should select points to stop and process concepts or practices with your learners.

QUALITY TEACHING

Over time, educators develop their own styles of teaching comfortably—integration of traits from good and bad teachers they remember, personal taste, and techniques that have worked in the past—and a style that works for one educator may fail miserably for another. However, the following are general guidelines for quality teaching at field days that should be a part of any effective teaching style:

Be open and honest. Share your feelings and experiences with your learners. It shows them you are human. But beware of overacting the expert, judge or advocate as these can turn participants off of learning. Make sure learners can take comfort in their own opinions. Let them know honestly if you are not sure how to answer a question.

Set expected behaviors and consequences, and stick to them. This is one of the most important, but often overlooked and neglected aspects of quality teaching. It is critical to begin your presentation with clear behavior expectations, especially asking your participants to suggest their own guidelines. But, you should make sure there are also clear and fair consequences for misbehavior—a verbal warning, sitting out of an activity, separation from peers, etc. Then enforce them in a dignified manner. Quality teachers will usually take learners aside to quietly discuss and correct behavior.

Be outwardly enthusiastic and positive. Unfortunately, learners may not immediately perceive your inward passions for the content of your presentation. Like an actor, you need to animate and even slightly over-exaggerate your enthusiasm. This is especially important with younger students. Smile, and inject some humor into your presentation. Try to dignify all of their input with positive remarks: "Great! Wow! Nice! Way to go!" Review with learners their progress in reaching you presentation goals. Speak in an energized, spirited manner.

Do not become a distraction. Although quality teaching demands outward expression of passions, there is a fine line between effective energy and distraction. Wringing your hands, twirling keys, fiddling with instruments, walking all over your presentation space, etc. will distract learners from their activities, your questions and content. Try to focus your enthusiasm through your speech, positive response to questions, and a few controlled gestures.

Talk to your participants. It seems so obvious. But focusing speech on your participants is tough in

practice. Speaking as you turn to write on a chalk board or easel is common practice. This directs your voice at the board, open air, or ground rather than your learners. Try to speak first, looking directly at participants, then take a moment to write on your board or set up activities.

Use plain language and simple steps. In The Landscape of Lingo, environmental author Seth Zuckerman (2001/2002) explains: "We all fall prey to this tendency [to speak in technical jargon] from time to time, but rarely do we consider the costs of lapsing into this kind of lingo, costs measured in failure to communicate with the people we need most to reach, and in the mental laziness that jargon permits." It is easy to speak instinctively in technical terms and complex, abstract concepts, and to bombard students with long lists of activity directions. It is well worth the added planning time to simplify the language of your presentations, and split complex ideas into manageable chunks. During your presentations, you should explain activities one or two-steps at a time. This is more important with younger participants.

Involve all learners. Involve all learners. Participants will attend your presentation with different levels of motivation. Some will be energized and outgoing, others quiet and withdrawn. Your social instincts will probably naturally pull you toward extroverted, energetic students. However, it is important to find ways to involve all participants in your presentation. Try to elicit input from as many students as possible. For those uncomfortable answering individually, ask the group to vote by show of hands, clapping, or snapping fingers if they think an answer is correct. Give some special responsibility to disengaged learners—carrying equipment, pointing out a cool animal or plan to classmates, etc. Mastery Teaching author, Madeline Hunter (1982) suggests raising learners' levels of concern—quietly stand close to individuals who do not appear to be engaged, or announce that your next activity will be difficult, requiring a lot of concentration. She suggests that teachers regularly point out learner successes.

Ask a lot of great questions. The significance of inquiry in the Experiential Learning Model is obvious. Yet, there are many different styles of questions and methods for using them. Like your effective learning objectives, it is important to frame your questions around a variety of Bloom's (1956) action verbs—knowing, comprehending, applying, analyzing, synthesizing and evaluating (see page XX). You can also try the following tips and tricks from educators Braus and Wood (1994):

- Ask open-ended questions. Try to avoid questions that expect a certain response. Encourage students to risk answering your questions: "I am looking for an adventurous person to tackle this question…." "I am not really sure how to answer this question. Can anyone take a guess?"
- Fight the urge to answer your own questions. Count 3-5 seconds after asking a question before asking for an answer. Wait 10-15 seconds (about the time it takes to sing Mary Had A Little Lamb) for learners to volunteer an answer. This "wait time" provides them a space to think.
- Ask plenty of extending questions that spur your learners to further explore and explain their answers. Good examples are: "Why?" "What do you think?" "Tell me more about that." Have one participant to summarize, evaluate or analyze another's answer. Take a vote to see how many agree with an individual or small group's answer.
- Encourage your participants to think out-loud, and in small groups. Ask a question, provide some time for individual thought, and then pair learners to discuss and develop a group answer.
- Ask questions that generate curiosity and action: "What do you think happens when acid rain falls on limestone?" "I wonder if there are any plants growing underneath this leaf litter?" Use these to motivate investigation and experimentation.

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7. Best Practice: Develop and Implement Program Evaluation Methods

BACKGROUND

Thorough evaluation assists you in looking beyond participant satisfaction to learn something about their changes in attitudes, knowledge, or behavior after the field day program. It helps you identify ways to improve your program during planning stages. Well-designed evaluations can help organizers hone the theme and design of their events. Presenters can use evaluation to improve and understand the impact of their lessons. They can help teachers measure knowledge gained and retained by students from field days. Evaluation information is critical for reporting successes to funders and decision-makers.

Evaluating field days can happen in many ways. It may be through a written survey, observation and interviews with participants, talking to parents or teachers, examining event photos, etc. Regardless of method, evaluations should be planned to measure success in meeting all critical objectives of planning and delivery of field days. It should include two basic forms of evaluation—*formative* evaluation that identifies ways to improve the program, and *summative* evaluation that measures the program impact. Thorough evaluation, including multiple forms and methods, provides you with the essential keys for unlocking the full potential of your field day program.

WHAT THE EXPERTS SAY

- Evaluation involves asking the right people the right questions in the right way (Poling, 1999).
- Evaluation plans should be formative and summative (Braus & Wood, 1994; Markinkowski, 1993).
- Evaluation consists of sources of information and methods used to get the information (Markinkowski, 1993; Payne, 2000; Poling, 1999).
- Evaluation plans should use multiple methods to assess multiple sources (Payne, 2000).

A week after her field day, Regina, an organizer, heaved a sigh of relief. She said, "The field day is finally over and you can sit back and breathe again! Time to start planning for next year's event, right? And this year I have a good idea of what worked and what needs to be fixed." Having held nearly the same event for ten years, Regina and colleagues wanted to measure their impact. They collaborated with consultants to evaluate their field day participants, teachers, presenters, and members of the communities served by the event. "After ten years, you would think we are doing everything perfectly. But we got some surprises. Even though we've been around a long time, almost no one in the community knew we existed. Teachers are interested in more hands-on water activities. And the presenters want to know more about students who will be participating." Among other things, the organizers plan to launch a public awareness campaign for next year's event and consider a water theme. "We have some real direction for improvements next year. Good evaluation information is critical."

IMPLICATIONS FOR PLAYERS

Organizers

- Identify focus questions that you want to answer about the field day.
- Plan formative evaluations, allowing improvements during event planning. These might include pre-event evaluations of student knowledge, presentation spaces, age-appropriateness of activities, etc.
- Identify and select multiple methods for collection of evaluation information.
- Create summative evaluations for all field day audiences—students, teachers, presenters and volunteers.
- Prepare your evaluations well in advance of use.
- Include time for filling-out evaluations in your field day schedule.
- Designate people to collect and summarize evaluations.
- Plan some type of incentive for participants to complete the evaluation (examples: free lunch or class photos when you turn in the evaluation).

Presenters

- Include time for asking questions and evaluating what students learned in your presentation. Ask them questions that test comprehension, application, analysis, synthesis and evaluation of your presentation content.
- Evaluate your presentation space and design of the event for organizers. Let them know what worked and what didn't.
- Ask for an evaluation of your presentation delivery.
- Ask for and examine the results of the summative program evaluation.

Teachers

- Reflect on your own role in the field day. Let organizers and presenters know if you learned something new, enjoyed involvement in activities, spent too much time managing your students, etc.
- Evaluate the program content and design for event organizers. Let them know what worked, what didn't, how the content fits your curricula, etc.

Volunteers

- Evaluate your own role in the field day. Let organizers, presenters and teachers know if you learned something new, enjoyed involvement in activities, spent too much time managing your students, etc.
- Evaluate the program content and design for event organizers. Let them know what worked, what didn't.

Working Together

- Organizers should ensure that teachers and presenters have plenty of safe opportunities to critique the event during planning stages. Feedback from these critiques should be used to revise and improve the field day before it begins.
- Presenters and teachers should let organizers know specific questions they need to answer about the field day. These may differ among different organizations, job responsibilities, teacher subjects, etc. Organizers can incorporate these different questions into the evaluations.
- Organizers, presenters, and teachers should

collaborate to design learning objectives that correlate with subjects students are studying, and presenters' backgrounds and expertise.

- Organizers, presenters, and teachers should all review and revise evaluations before use.
- Teachers and presenters can cooperate with organizers to make sure all evaluations are completed and returned in a timely fashion. More evaluations translate into better information for improvements.
- Organizers should summarize evaluation information in an easy-to-read final report for presenters, teachers, and students that lists successes, areas for improvement, and requests recommendations for changes to the event. Teachers can discuss the information with their students, and cooperate in creation of recommendations.

PRACTICAL TIPS

- Consider evaluating aspects of your field day other than gains in knowledge. These might include hours of service completed, changes in attitudes, learning with others, a better understanding of professions, etc.
- Try to gather evaluation information from two or more different sources or methods. Called triangulation, this helps you better support conclusions of your evaluation.
- Consider alternative evaluation methods that do not require participants to fill out forms. These may include interviews with select students, teachers, volunteers, or presenters, examination of pictures, video-taping presentations, etc.
- Clearly label numbers when using scales for evaluation (i.e., 4 = high agreement, 3 = agreement, 2 = disagreement, 1 = high disagreement).
- Do not offer too many options when using number scales. Try an even number of options (i.e., 4 or 6), which will make your results clearly positive or negative.
- During the field, day keep track of things that should be changed, good ideas to be incorporated, and/or things not to do next time. Write these down immediately after the event while they are fresh.
- In evaluation summaries, take care to identify the successes. Positive feedback can have a significant impact on anyone involved in your program.
- Send evaluation summary reports to all stakeholders, including school administrators, legislators, and other potential supporters of the event.

DEVELOPING EVALUATION FOCUS QUESTIONS

A good evaluation plan begins with a few BIG questions you want to answer about your field day. These focus questions should include both the people you want to question, and the things you want to ask them about. Knowledge gained by students attending your field day need not be the limit of your focus questions. Your evaluation plan should question multiple people about a variety of things.

A list of focus questions you may want to ask about your field days and good methods for answering these questions follows:

POSSIBLE FOCUS QUESTIONS FOR PEOPLE ASSOCIATED WITH YOUR FIELD DAY	POSSIBLE METHODS
STUDENTS	
What did students learn about _____ subject through participation in our field day?	Interviews, Observations, Pre/Post Survey, Authentic Assessment
Do students retain information learned at our field day for long periods?	Interviews, Observations, Pre/Post Survey, Authentic Assessment
What did students like/dislike about our field day? Why?	Interviews, Focus Groups, Observations, One-shot Survey, Written Statements
How did participating in our field day affect students' attitudes about learning, their communities, or environment?	Interviews, Pre/Post Survey, Written Statements
Did students refine issue analysis, civics, landscaping, scientific, etc. skills through participation in our field day?	Observations, Pre/Post Survey, Authentic Assessment
Do students behave differently towards their community or environment after participating in our field day?	Interviews, Observation, Pre/Post Survey, Written Statements
How did participating in our field day inform/affect students' career plans?	Interviews, Pre/Post Survey, Written Statements
VOLUNTEERS	
What did volunteers like/dislike about our field day? Why?	Interviews, Focus Groups, Observations, One-shot Survey, Written Statements
What do volunteers think we could do better with our field day?	Interviews, Focus Groups, One-shot Survey, Written Statements
What do volunteers think students liked/disliked about the field day?	Interviews, Focus Groups, One-shot Survey, Written Statements
What did volunteers think students learned about _____ subject through participating in our field day?	Interviews, Focus Groups, One-shot Survey, Written Statements
Is our volunteer orientation effective?	Interviews, Focus Groups, Observations, Pre/Post Survey, Written Statements
Does our volunteer group reflect the diversity of our community?	Observations

POSSIBLE FOCUS QUESTIONS FOR PEOPLE ASSOCIATED WITH YOUR FIELD DAY	POSSIBLE METHODS
TEACHERS	
What did teachers like/dislike about our field day? Why?	Interviews, Focus Groups, Observations, One-shot Survey, Written Statements
What do teachers think we could do better with our field day?	Interviews, Focus Groups, One-shot Survey, Written Statements
What did teachers learn about _____ subject through attending our field day?	Interviews, Observations, Pre/Post Survey, Authentic Assessment
What did teachers learn about teaching in the field through attending our field day?	Interviews, Observations, Pre/Post Survey, Authentic Assessment
What do teachers think students liked/disliked about the field day?	Interviews, Focus Groups, One-shot Survey, Written Statements
What did teachers think students learned about _____ subject through participating in our field day?	Interviews, Focus Groups, One-shot Survey, Written Statements
What issues/skills could we present at our field day to best fit with what students are studying in class?	Interviews, Focus Groups, One-shot Survey, Written Statements
What should we know about your students to better teach them?	Interviews, Focus Groups, One-shot Survey, Written Statements
How do teachers integrate the field day into students' school curriculum? What could we provide to help them integrate it effectively?	Interviews, Focus Groups, One-shot Survey, Written Statements
Do our orientation materials prepare teachers to attend and participate in the field day? What could we provide to better prepare them?	Interviews, Observations, Pre/Post Survey, Written Statements
PRESENTERS	
What did presenters like/dislike about our field day? Why? What do presenters think we could do better with our field day?	Interviews, Focus Groups, Observations, One-shot Survey, Written Statements
What did presenters learn about teaching in the field through teaching at our field day?	Interviews, Observations, Pre/Post Survey, Authentic Assessment

POSSIBLE FOCUS QUESTIONS FOR PEOPLE ASSOCIATED WITH YOUR FIELD DAY	POSSIBLE METHODS
PRESENTERS continued	
What do presenters think students liked/disliked about the field day?	Interviews, Focus Groups, One-shot Survey, Written Statements
What issues/skills could we present at our field day to best fit with presenters' expertise and organizational missions?	Interviews, Focus Groups, One-shot Survey, Written Statements
Do our orientation materials/information about their students prepare presenters to teach comfortably and effectively at our field day?	Interviews, Pre/Post Survey, Written Statements
Are presenters aware of the event theme/other presentation themes/layout of the event/safety plan/etc?	Interviews, Observation, One-shot Survey
SCHOOL ADMINISTRATORS (PRINCIPAL, SUPERINTENDENT, CURRICULUM COORDINATORS)	
Are school administrators aware of our field day/theme/content/impact?	Interviews, One-shot Survey
What types of impacts do administrators think are the most important for our event to have on students?	Interviews, Focus Groups, One-shot Survey, Written Statements
What issues/skills should we present at our field day to best fit with curriculum that students study at school?	Interviews, Focus Groups, One-shot Survey, Written Statements
What types of incentives, like transportation funds, sub-pay, lunches, etc., are most important for us to provide for your teachers?	Interviews, Focus Groups, One-shot Survey, Written Statements
What do we need to know about your teachers and students to better teach them?	Interviews, Focus Groups, One-shot Survey, Written Statements
How can we include school administrators in planning our field day more effectively?	Interviews, Focus Groups, One-shot Survey, Written Statements
PARENTS	
Are parents of your participants aware of our field day/theme/content/impact?	Interviews, One-shot Survey
Do parents discuss the field day with their children?	Interviews, One-shot Survey, Written Statements

POSSIBLE FOCUS QUESTIONS FOR PEOPLE ASSOCIATED WITH YOUR FIELD DAY	POSSIBLE METHODS
PARENTS continued	
What did parents learn about _____ subject through their children's participation in our field day?	Interviews, Observations, Pre/Post Survey, Authentic Assessment
What do parents think their children liked/disliked about the field day?	Interviews, Focus Groups, One-shot Survey, Written Statements
What did parents think their children learned about _____ subject through participating in our field day?	Interviews, Focus Groups, One-shot Survey, Written Statements
Do parents think our field day is a relevant/valuable addition to their children's schooling? Why?	Interviews, One-shot Survey, Written Statements
COMMUNITY MEMBERS	
Are members of the community aware of our field day/ theme/content/impact?	Interviews, One-shot Survey
What did community members learn about _____ subject through interacting with children in their community who participated in our field day?	Interviews, Observations, Pre/Post Survey, Authentic Assessment
Do community members think our field day is a relevant/ valuable addition to their children's schooling? Why?	Interviews, One-shot Survey, Written Statements

POSSIBLE FOCUS QUESTIONS FOR THINGS ASSOCIATED WITH YOUR FIELD DAY	POSSIBLE METHODS
MARKETING/PROMOTION	
Where did attending teachers hear about our field day?	Interviews, One-shot Survey, Written Statements
Where/when/how could we promote our event to teachers to attract more participants?	Interviews, Focus Groups, One-shot Survey, Written Statements
What key promotional messages about our event are most important to teachers?	Interviews, Focus Groups, One-shot Survey, Written Statements
THEME	
Does our theme reflect an important community issue?	Interviews, Focus Groups, One-shot Survey, Written Statements
Do students recall our theme after participating in the field day? What about before?	Interviews, Pre/Post Survey, Written Statements
Can students describe how our event theme is relevant to their lives and/or communities?	Interviews, Written Statements
Do presenters/teachers/volunteers remember the theme?	Interviews, Pre/Post Survey, Written Statements
Is our theme apparent in all of our promotional and planning materials?	One-shot survey
Do all presenters refer to our theme before and at the end of their presentations?	Observations, One-shot Survey
Do our field day presentations provide a variety of different viewpoints/supporting ideas/careers related to our theme?	Interviews, Observations, One-shot Survey, Written Statements
PRESENTATIONS	
Do our field day presentations focus on five or less ideas that support the event theme?	Observations, One-shot Survey, Written Statements
Do presenters at our field day introduce and focus their presentations on measurable learning objectives? How do these represent a range of different learning levels or styles?	Observations, One-shot Survey, Written Statements

POSSIBLE FOCUS QUESTIONS FOR THINGS ASSOCIATED WITH YOUR FIELD DAY	POSSIBLE METHODS
PRESENTATIONS continued	
How do presenters structure their activities according to the Experiential Learning Model?	Interviews, Observations, Written Statements
Are our field day presentations inclusive of students with different abilities/learning styles/cultures/genders?	Interviews, Observations, One-shot Survey, Written Statements
Do our field day presentations include a range of different teaching methods?	Observations, One-shot Survey, Written Statements
Which presentations do students remember for long periods of time?	Interviews, One-shot Survey, Written Statements
SETTING	
What type of setting provides a unique experience for students that relates to our field day theme?	Interviews, Focus Groups, One-shot Survey, Written Statements
How does our event layout support the theme?	Interviews, Focus Groups, Observation, One-shot Survey, Written Statements
Which field day locations are most convenient for presenters and attending teachers?	Interviews, Focus Groups, One-Shot Survey
How does our field day setting provide amenities that presenters require for their activities?	Interviews, Focus Groups, Observation, One-shot Survey, Written Statements
How can we ensure that our field day setting is accessible to all students/teachers/volunteers?	Interviews, Focus Groups, One-Shot Survey
Do students feel safe during our event?	Interviews, Observation, One-shot Survey, Written Statements
Do our maps/signs clearly communicate how to navigate our field day?	Interviews, Focus Groups, Observation, One-Shot Survey, Written Statements
Does our schedule allow enough time to travel between presentations?	Interviews, Focus Groups, Observation, One-Shot Survey, Written Statements
How can we improve our risk management plan?	Interviews, Focus Groups, One-shot Survey, Written Statements

POSSIBLE FOCUS QUESTIONS FOR THINGS ASSOCIATED WITH YOUR FIELD DAY	POSSIBLE METHODS
ACADEMIC PROGRAM IMPACT (SUCCESS IN SCHOOL AND LEARNING)	
How does our field day theme/content support education standards/curriculum that students study in school?	Interviews, Focus Groups, One-Shot Survey, Written Statement
How does participating in our field day affect students' performance on science/social studies tests?	Interviews, Pre/Post Survey
How does participating in our field day affect students' motivation to learn about science/social studies?	Interviews, Observation, Pre/Post Survey, Written Statements
Do students who attend our field day do better on standardized tests?	Interviews, Pre/Post Survey, Written Statements
Are students who attend our event more inclined to study environmental sciences in high school/college?	Interviews, Pre/Post Survey, Written Statements
How do our field day theme/presentations support civic engagement/environmental service?	Interviews, Focus Groups, One-Shot Survey, Written Statement
After participating in our field day, can students demonstrate improved information/skills requisite to civic engagement/environmental service?	Interviews, Observation, Pre/Post Survey, Written Statements, Authentic Assessment
How does participating in our event affect students' attitudes toward civic engagement/environmental service?	Interviews, Pre/Post Survey, Written Statements
After participating in our field day, can students list people to call for help with civic engagement/environmental service?	Interviews, One-shot Survey, Written Statements

EVALUATION METHODS

There are a variety of ways to measure achievement of your learning objectives and answer your evaluation focus questions. When possible, you should use multiple methods—not just surveys—to collect data pertaining to your questions. But, it is important to select methods appropriate for your needs, and use them correctly. It is recommended that you consult experts or evaluation design resources for information about using specific methods.

The following list describes a variety of methods you may use to evaluate your field day, and important things you should consider when using them:

Personal Interviews

Asking individuals questions about your field day and recording their answers.

This method is good for:

- Identifying issues, topics, and themes for your field day.
- Detailing learning objectives and evaluation focus questions.
- Identifying potential partners and/or competing programs.
- Detailing important things you should include in your field day plans and promotion.
- Assessing planning in progress, and identifying improvements.
- Assessing how people feel and understand your field day theme/content.
- Detailing how people experience your field day.

When using this method, you should:

- Develop a set of questions that you will ask all interviewees, and stick to these as much as possible.
- Ask interviewees for permission to record their responses on tape, CD, etc.
- Transcribe responses in interviewees exact words.
- Convene a group of 3-5 community members and/or key players in your field day to read interview transcripts (minus names of interviewees), identify common themes, and mark examples of the themes on the transcripts.
- Share the themes among group members and decide which are most common/important.
- Report results of your evaluation using exact quotes from your interviews.

Focus Groups

Exploring key player/community members' feelings and beliefs about your field day.

This method is good for:

- Identifying issues, topics, and themes for your field day.
- Detailing learning objectives and evaluation focus questions.
- Identifying potential partners and/or competing programs.
- Detailing important things you should include in your field day plans and promotion.
- Detailing potential barriers to the success of your event.
- Developing a planning process and/or timeline.
- Identifying key audiences to serve through your field day.

- Finding potential presenters.

When using this method, you should:

- Develop specific topics for the focus group to address.
- Convene a group of four to six community members/key players in your field day who represent diverse viewpoints/expertise/ opinions about your focus topics.
- Develop focus questions and rules for input that ensure all group members participate.
- Secure an experienced moderator(s) to facilitate discussion and record responses.
- Don't provide focus questions to the group ahead of time as you need them to participate in discussion without pre-determined answers.
- Convene a group of three to five people to review results of your discussion (minus names of group members), identify common themes, and mark examples of the themes on the transcripts.
- Let these people know the results of their collective analysis.
- Report results of your evaluation using exact quotes from your interviews.

Observations

Watching, recording, and analyzing peoples' behaviors/interactions and/or the layout of your event.

This method is good for:

- Identifying and illustrating peoples' outward emotions and reactions to your field day.
- Identifying and illustrating how people behave before, during, and/or after affiliation with your field day.
- Surveying the readiness/success of your event layout.

When using this method, you should:

- Enlist a group of two to three people to observe your event or setting.
- Develop clear rules and timelines for observations.
- Clearly define and create a checklist of things about your field day event or setting you want them to observe.
- Ask them to take detailed notes or record comments about what they observe and where they observe it to support their checklists.
- Ask that two or more of your observers simultaneously watch the same parts of your field day.
- Compile the checklists, support common observations with observer notes.
- Let your experts know the results of their collective efforts .

One-shot Survey

Recording and analyzing peoples' responses to a one-time written or verbal set of questions about your field day—usually before or after your event.

This method is good for:

- Finding out if people know about your field day.
- Ranking issues and topics for your field day.
- Ranking key audiences to serve through your field day.
- Collecting information about the preferences of people related to your field day.
- Measuring what people know and/or feel about your field day theme/content

and/or teaching methods before or after participating.

- Measuring how people behave in relation to your field day theme/content.
- Ranking what people liked and/or disliked about your field day.
- Detailing aspects of presentations and/or your field day layout.

When using this method, you should:

- Clearly define what you want to know about your field day and who you need to ask for the information.
- Develop a system of well-crafted questions that solicit the information you want to know.
- While maintaining participant confidentiality, include background information on the questionnaire that will help you analyze responses (i.e., age, gender, school, teacher, etc.).
- Create clear rules/spreadsheets/etc. to analyze your answers.
- Ask a representative sample of your audience to complete the survey (i.e., if you want to know what your 10-12 year old participants liked about your field day, you need to ask a sample of 10-12 year olds to complete the survey).
- Collect and compile all answers to the questionnaire, analyze, and display as averages, tables, graphs, etc.

Pre/Post Survey

Recording and comparing peoples' responses to a set of questions asked before and after participating in your field day.

This method is good for:

- Comparing peoples' awareness of your field day before and after the event.
- Measuring which promotional messages about your field day most effectively reached teachers/community members.
- Measuring changes in the preferences of people related to your field day.
- Measuring changes in what people know and/or feel about your field day theme/content and/or teaching methods after participating.
- Measuring changes in what people liked and/or disliked about your field day.
- Measuring changes in peoples' behavior related to your field day.
- Tracking long-term changes in what people know and/or feel about your field day.

When using this method, you should:

- Clearly define what you want to know about your field day and who you need to ask for the information.
- Develop a system of well-crafted questions that solicit the information you want to know.
- While maintaining participant confidentiality, include background information on the questionnaire that will help you analyze responses (i.e., age, gender, school, teacher, etc.).
- Ask each participant to select a pseudonym that only he/she will recognize., This will allow you to confidentially identify and withdraw those who do not complete both surveys.
- Create clear rules/spreadsheets/etc. to analyze your answers.
- Ask a representative sample of your audience to complete the survey.
- For comparison purposes, consider asking

a control group of similar people who did not take part in your field day to also take the survey.

- To test long-term changes, wait longer after your field day to ask students to complete the post-survey or ask them to complete the post-survey multiple times after the event.
- Collect and compile all answers to the questionnaire, analyze, and display as shifts/statistical comparisons of averages, tables, graphs, etc.

Written Statements

Asking individuals for written response to questions about your field day, and analyzing their answers.

This method is good for:

- Identifying issues, topics, and themes for your field day.
- Detailing learning objectives and evaluation focus questions.
- Identifying potential partners and/or competing programs.
- Detailing important things you should include in your field day plans and promotion.
- Assessing planning in progress, and identifying improvements.
- Assessing how people feel and understand your field day theme/content.
- Detailing how people experience your field day.

When using this method, you should:

- Develop a set of questions/prompts that you will ask all writers and stick to these as much as possible.
- Ask a representative sample of your audience to complete your prompts.
- To maintain confidentiality, ask each participant to select a pseudonym that only he/she will recognize.
- Convene a group of three to five community members and/or key players in your field day to read written statements (with only pseudonyms), identify common themes, and mark examples of these themes on the statements.
- Share the themes among group members, and decide which are most common/important.
- Report thematic results of your evaluation using exact quotes from the written statements.

Authentic Assessments

Measuring peoples' performance of skills related to your field day.

This method is good for:

- Measuring how well people teach or perform skills essential to facilitating your field day.
- Gauging how successfully students practice skills learned at your field day.

When using this method, you should:

- Tabulate a list of skills you want to measure.
- Create a clear set of standards for judging how well skills are performed.
- Enlist a group of two to three community members and/or key players in your field day to observe/assess peoples' performance of skills.
- Ask a representative sample of your audience to demonstrate skills learned.

- Ask your observers to rate peoples' skills and support their rankings with detailed notes.
- Compile all ratings and identify any common themes.
- Report your results using average ratings of observers supported with quotes from their notes.

TIPS FOR CREATING SURVEY QUESTIONS

A survey will almost always be a key part of your field day evaluation. However, constructing good survey questions for your field day requires careful attention to detail. Survey research expert, Floyd Fowler, Jr. (2002), explains that "designing a question for a survey instrument is designing a measure, not a conversational inquiry." Your survey questions should be crafted to tell you something useful and specific about one or more of your focus questions. You need to devise them so responses can be trusted.

Consider the following points when creating survey questions for your field day program:

1. Make sure that each of your survey questions helps you answer one of your evaluation focus questions.

Use each of your survey questions to provide *measurable* information about one of your focus questions. *Avoid* asking survey questions that do not relate to your focus questions.

For Example:

1. Getting involved in community work is important.

Strongly Disagree **Strongly Agree**

1 2 3 4 5

This question can help us answer the focus question.

How does participating in our event affect students' attitudes toward civic engagement/ environmental service?

2. Make sure that your questions are clearly written.

Author Robert Peterson (2000) suggests following the KISS principle:

Keep **I**t **S**imple **S**tupid

For Example:

You might define some scientific and education jargon, or try to swap technical terms for something easier to understand.

Using jargon

HARDER TO UNDERSTAND	EASIER TO UNDERSTAND
To what extent	How much or How well
Curriculum	Schoolwork
Abiotic	Nonliving
Diversity	Variety
Raptor	Eagles, hawks, owls...

Word your questions so they ask for the information you need. Do not leave interpretation up to people taking your survey.

Unclear questions

1. How often do you work to protect lakes or wetlands?

Never **Always**

1 2 3 4 5

This question can be interpreted in many ways. What does "always" mean? What kinds of activities preserve lakes and wetlands? It might be reworded:

1. In 2004, how often do you plan to protect lakes or wetlands (including cleaning up trash, re-planting shorelines, and monitoring water quality)?

   a. 6 or more times

   b. 3-5 times

   c. 1-2 times

   d. Never

3. Make sure that people taking your survey will truthfully answer your questions.

Author Robert Peterson (2000) suggests that people may not answer your survey for two reasons: "They perceive that the question is too personal or they believe that answering the question will take too much effort or time." The way you word your questions may also accidentally confuse people and/or lead them to a particular answer.

For Example:

Your questions may demand that students, teachers and others work too hard for answers. It is best to limit your questions to requesting three or less pieces of information.

Asking for too much information

1. List all of the important ideas you learned during the field day.

This question could frustrate students who remember a lengthy list of key ideas, or feel pressed for time to recall their answers. Reword the question to limit its scope:

1. List two of the most important ideas you learned during the field day.

You should also avoid questions that assume things about people taking your survey.

Assuming things about people

1. I wash off my boat at the shoreline before leaving a lake.

Never				**Always**
1	2	3	4	5

This question assumes that people own a boat. A "never" answer may therefore mean they 1) do not wash off their boat, or 2) they do not own a boat to wash off. Reword the question:

1. How well do you agree that it is important for people to wash their boats before leaving a lake.

Not Important			**Very Important**	
1	2	3	4	5

4. Use the best format and scale for your survey questions.

The format and/or scale you choose for your survey questions can affect both 1) how people answer your question, and 2) the type of information you receive from their answer. You should try to format each of your questions so they are sensible for people to answer, and scale them so you get information you can use.

General Guidelines for Formatting Your Questions

- Choose open-ended or closed-ended questions

Pick your scale to force choice or show a range

- Make sure your scale is balanced
- Make sure people can understand your scale

For Example:

An open-ended survey question places no limits on peoples' responses. They can give any answer they feel is right. A closed-ended question forces people to choose from a limited list of answers you provide them.

Open ended or closed-ended questions

1. State, in your own words, the theme of this field day.

This open-ended question allows people to write any theme they think is "right" It can help you measure the variety of ways people interpret your event theme. However, you may not see an exact re-statement of your theme. To see if people can recognize your theme exactly, you may want to limit responses. A closed-ended version of the question might be:

1. Which of the following answers best describes the theme of this field day?
    a. Bison, fire, and drought kept our prairies alive.
    b. Prairie plants need plenty of water.
    c. Prairies are endangered ecosystems.
    d. None of these describes the theme of this field day.

Limiting the number of options for response to your survey questions will force people to make a clear choice. Providing a higher number of options can provide you a range of answers, which can be helpful in tracking changes in feelings and behaviors.

Choice or show a range

1. Do your students understand site preparation for planting tree seedlings (clearing debris, digging their hole the proper size, adding soil amendments)?
    a. Yes
    b No

This yes-no question forces teachers to make a clear choice whether students understand site preparation or not. It would be helpful in determining whether or not the information is important to cover in your field day. On the other hand, it might be hard to show changes in understanding before and after your field day with such limited choices. To show a range, reword the question:

1. How well do your students understand site preparation for planting tree seedlings (clearing debris, digging their hole the proper size, adding soil amendments)?

Exceptional Understanding				**No Understanding**
1	2	3	4	5

An effective scale for your closed-ended questions is well-balanced, meaning the range of choices you provide people to answer them should make sense. There should not be more positive or negative choices.

Balanced scales

1. In your view, how did students understanding of prairies change before and after the field day?

   a. Increased
   b. Stayed the same
   c. Decreased a little
   d. Decreased somewhat
   e. Decreased a lot

This question provides teachers with more negative than positive answer choices. The difference between "little" and "somewhat" is also unclear. To balance the scale, reword the question:

1. In your view, how did students understanding of prairies change before and after the field day?

   a. Increased a lot
   b. Increased somewhat
   c. Stayed the same
   d. Decreased somewhat
   e. Decreased a lot

Finally, your scales must be sensible to the people taking your survey. Response choices should be clearly labeled. When surveying young children who may not be able to read, you may also use pictures to convey the meaning of your scales.

Clear scales

1. How much did you enjoy planting trees?

1 2 3

This question uses a scale that has no clear meaning. Is 3 good or bad? Choices should be clearly labeled. Assuming you are surveying younger students, you might also ask teachers to read questions to their class. You might reformat the question:

O = I liked it a lot

O = It was okay

O = I did not like it

1.How much did you enjoy planting trees?

I liked it a lot **I did not like it**

O O O

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8. Organizational Resources

Whether you are an organizer selecting session topics, or a presenter choosing a topic for your field day program, strive to ensure that the topics address the event's theme. The following are actual session topics utilized in field day events across Minnesota (based on results from a survey of University of Minnesota Extension Service staff that participated in field days).

POSSIBLE FIELD DAY TOPICS

- Adaptations
- Agricultural Ecosystem
- Amphibians
- Antler Scoring
- Aquatic Invertebrates
- Backyard Conservation
- Backyard Wildlife
- Bald Eagles
- Bats
- Bird Ecology
- Bluebird Trails
- Carrying Capacity
- Clouds
- Composting
- Dendrology
- Drainage
- Drawing Nature
- Drinking Water
- Early Settler Stories
- Electricity and Conservation
- Endangered Species
- Entomology
- Enviroscape: Land Use Models
- Exotic Species
- Farming and Conservation Practices
- Fertilizers and Lawns
- Fire Management
- Fish Consumption Advisories
- Fish Identification
- Fish of Minnesota
- Fisheries
- Food Webs and Ecosystem
- Forest Management
- Forest Tent Caterpillars
- Furs
- Geology
- Glaciers
- GPS—Map Reading
- Groundwater
- Habitat
- Hibernation
- Honey Bees
- Household Hazardous Waste
- Identifying Native Prairie Plants
- Identifying Waterfowl
- Identifying Wetlands & Wetland Plants
- Identifying Wildlife
- Integrated Pest Management
- Lakes
- Lake Turnover
- Land Use
- Landfills
- Landscaping for Wildlife
- Living Snow Fences
- Macro Invertebrates
- Mammals
- Maple Syrup
- Measuring Tree Volume
- Migration
- Native American Stories
- Nature Walks
- Nutrient Management
- Oak Savannah

- Pests
- Pheasant Habitat
- Photography
- Pollution
- Pond Ecology
- Prairies
- Prairie Restoration
- Predators
- Prescribed Burning
- Private and Public Lands
- Rain Gardens
- Raptors
- Recycling
- Reptiles
- Rocks and Minerals
- Sand Dunes of Minnesota
- Seeds
- Shelter Belts
- Snakes
- Soils
- Soil Conservation
- Solid Waste
- Songbirds
- Stream Ecology
- Stream Improvement
- Surface Water
- Team Building—Environmental Theme
- Ticks and Diseases
- Tracking
- Tree Diseases
- Tree Farming
- Tree Identification
- Tree Planting
- Tree Pruning
- Waste Management
- Water Conservation
- Water Quality
- Water Safety
- Water Treatment
- Waterfowl
- Watersheds
- Weather
- Wetlands
- Wildlife
- Wolves
- Wood Ducks
- Woodworking for Wildlife

POSSIBLE FIELD DAY PRESENTERS

Be creative when thinking of presenters for your field day event. In addition to the usual requests for federal, state, or local agency staff, consider area individuals, groups, and organizations that have an interest and knowledge about the theme of your event. A list of presenters that have been utilized by field day events across Minnesota follows:

Local/County

- Ag Inspector
- Agricultural Supply Companies
- Area Lake Association Members
- Citizen Monitoring Groups
- City Parks and Recreation Staff
- City Water Treatment
- Clean Water Partnerships
- County Staff—Land Department, Planning/Zoning
- County Water Planning
- Environmental Groups
- Environmental Office
- Community Colleges
- Garbage Service Managers
- Groundwater Protection Districts
- High School Students
- Lake Associations
- Landscape/Nursery Center Staff
- Local Banks
- Local Resources/Volunteers

- Local Trust Funds
- Nature Center Staff, Volunteers, and Members
- Recreation Groups
- Retired School Teachers
- Sheriff's Office
- Soil & Water Conservation Districts
- Solid Waste Office
- Watershed Districts
- Watershed Groups
- Well Drillers

State

- Audubon Chapter Members
- Commodity Groups
- Department of Agriculture
- Department of Health
- Department of Natural Resources—enforcement, fisheries, wildlife, parks
- Extension Service
- Historical Societies
- Master Gardeners
- Office of Environmental Assistance
- Pollution Control Agency
- Public Health
- Science Museum
- State Park Naturalists
- Technical Colleges
- Universities

Federal

- Natural Resources Conservation Service
- National Wildlife Refuge Staff
- US Army Corps of Engineers

Regional

- Environmental Protection Agency
- International Wolf Center
- Sea Grant

CREATIVE BUDGETING

Prepare a budget to examine what expenses your event may incur. Remember to consider the following:

Expenses:

- Facility rental
- Equipment rental
- Printing
- Advertising, promotion
- Postage
- Supplies
- Gifts/premiums for students and/or presenters
- Food, beverages provided
- Speaker cost, bus fees, or other costs paid to schools

Income:

- Student fees
- Grants, donations, other sources of revenue
- In-kind contributions: to capture an accurate picture of the cost for the day, you should include the cost per hour of the presenters, teachers and volunteers. This can help to leverage other grants and to give the program a financial value.

Ask what your event needs to offset these costs. If your field day needs additional funding, here are a few ideas of where other field day events have secured funds, sponsorships, and donations. Check with local or area groups, businesses, individuals, or organizations that support education, as they may be willing to contribute funds for your event. Groups that have funded Minnesota field days include: commodity groups, banks, sportsman's organizations, discount stores, grocers, bottling companies, service organizations, and veterans organizations.

The following are actual examples of donations received for field day events:

- For one event, the county dairy producer organization provided milk and ice cream for the field day participants.
- Several events solicit product donations from stores for session supplies.
- One field day provides a meal for the presenters and volunteers. Area grocers, stores, and bottling companies provide donations of food and beverage.
- At a water festival event, one company supplied bottled water for all of the youth.

In addition, grants to help defray the cost of your educational event may be available through a variety of sources. Numerous organizations send periodic grant updates via internet or newsletter. Search the internet for more information.

EVENT CHECKLIST

Although every field day event and presentation is different, organizers can use the following general checklist as a reminder for their events: items may need to be added or ignored, but it provides a good basic outline for necessary points.

One Year to Three Months in Advance

- Identify location for event
  - Consider meeting spaces, outdoor classrooms, bathroom facilities
  - Handicap accessibility
  - Availability AV equipment
  - Reserve location
  - Sign contract

- Prepare event budget
  - Speaker fees
  - Supplies
  - Transportation/mileage
  - Lunch costs for presenters, students
  - T-shirts or other give-away items
- Identify theme for event
- Contact local groups or organizations for potential local sponsorship
- Create publicity plan
  - Identify local media sources, radio, TV, newspapers
  - Local community bulletin boards
  - Calendars of activities
  - Local park and recreation boards
  - Local community education groups
- Letter to schools or specific groups targeted (this may need to be done earlier depending on situation)
- Contact and invite presenters
- Solicit donations from local businesses as needed
- Order any materials needed

Two Months in Advance

- Return participation forms
- Invite dignitaries, politicians, board members, local people of interest

Two to Three Weeks in Advance

- Send confirmation letters to presenters with map and tentative schedule
- Prepare a detailed agenda/schedule
  - Include breaks, lunch
  - Bathroom locations
  - Parking instructions
  - Any permit requirements (if using a facility which requires a permit)
- Develop an outline for identifying student outcomes
- Send letters to participants (teachers, schools, principals, groups)
- Run ads in paper, post flyers
- Determine room's set up and equipment needs
- Pick up any donations
- Make necessary food arrangements
- Develop appropriate evaluation

One Week Before

- Prepare any handouts for participants or teachers
- Confirm any food arrangements
- Locate posters and/or visual aids necessary
- Update participation list
- Copy evaluation for distribution

Day of Event

- Arrive early to allow yourself time to set up
- Check all areas being used for supplies and equipment
- Set up any necessary AV equipment
- Hang signs, posters etc
- Make sure that garbage cans are available
- Have someone designated to meet buses
- Provide maps showing activity locations

- Have back-up plan if a presenter is absent
- Have a telephone number for the location where you are
- Use walkie-talkies for communication
- Set up registration area
- Be available to handle any situations that may arise
- Hand out evaluations and collect completed forms
- Collect materials, posters, signs, etc.
- Clean up as necessary

Following Event

- Complete summary of evaluation data
- Send to participants, funders, and others as needed
- Send thank you notes to speakers and donors
- Send media release, include photos
- Balance budget
- Write written summary for necessary reporting

SAMPLE SCHEDULES

The specific situation of your field day, your themes and presenters, should dictate your presentation schedule. Based on professional experience, however, it is always advisable to schedule at least 20 minutes per presentation. Less time leaves little room for effective introductions, activities, and conclusions. When possible, you should strive for 30-45 minute presentations, which provides plenty of activity and discussion time. The following examples show a six presentation schedule for 1) a 20- minute presentation schedule for six colored groups, and 2) a 30-minute schedule for six groups.

20-Minute Presentation:

9:00-9:15	Welcome	Welcome	Welcome	Welcome	Welcome	Welcome
	Presentation 1	Presentation 2	Presentation 3	Presentation 4	Presentation 5	Presentation 6
9:25-10:05	Blue Group	Pink Group	Orange Group	Yellow Group	Green Group	Red Group
10:05-10:10	Travel	Travel	Travel	Travel	Travel	Travel
10:10-10:40	Red Group	Blue Group	Pink Group	Orange Group	Yellow Group	Green Group
10:40-10:50	Travel	Travel	Travel	Travel	Travel	Travel
10:50-11:30	Green Group	Red Group	Blue Group	Pink Group	Orange Group	Yellow Group
11:30-11:40	Travel	Travel	Travel	Travel	Travel	Travel
11:40-12:20	Yellow Group	Green Group	Red Group	Blue Group	Pink Group	Orange Group
12:20-12:50	Lunch	Lunch	Lunch	Lunch	Travel	Travel
12:50-1:30	Orange Group	Yellow Group	Green Group	Red Group	Blue Group	Pink Group
1:30-1:40	Travel	Travel	Travel	Travel	Travel	Travel
1:40-2:20	Pink Group	Orange Group	Yellow Group	Green Group	Red Group	Blue Group
2:20-2:30	Closing	Closing	Closing	Closing	Closing	Closing
2:30-2:45	Board Buses	Board Buses	Board Buses	Board Buses	Board Buses	Board Buses

30-Minute Presentation:

9:00-9:15	Welcome	Welcome	Welcome	Welcome	Welcome	Welcome
	Presentation 1	Presentation 2	Presentation 3	Presentation 4	Presentation 5	Presentation 6
9:25-9:55	Blue Group	Pink Group	Orange Group	Yellow Group	Green Group	Red Group
9:55-10:05	Travel	Travel	Travel	Travel	Travel	Travel
10:05-10:35	Red Group	Blue Group	Pink Group	Orange Group	Yellow Group	Green Group
10:35-10:45	Travel	Travel	Travel	Travel	Travel	Travel
10:45-11:05	Green Group	Red Group	Blue Group	Pink Group	Orange Group	Yellow Group
11:05-11:15	Travel	Travel	Travel	Travel	Travel	Travel
11:15-11:45	Yellow Group	Green Group	Red Group	Blue Group	Pink Group	Orange Group
11:45-11:55	Travel	Travel	Travel	Travel	Travel	Travel
11:55- 12:30	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch
12:30-1:00	Orange Group	Yellow Group	Green Group	Red Group	Blue Group	Pink Group
1:00-1:10	Travel	Travel	Travel	Travel	Travel	Travel
1:10-1:40	Pink Group	Orange Group	Yellow Group	Green Group	Red Group	Blue Group
1:40-1:50	Travel	Travel	Travel	Travel	Travel	Travel
1:50-2:05	Closing	Closing	Closing	Closing	Closing	Closing
2:05-2:15	Board Buses	Board Buses	Board Buses	Board Buses	Board Buses	Board Buses

9. Summary

In Minnesota alone, field day programs annually serve over ten thousand students. Volunteer educators commit hundreds of hours to organizing and teaching these enjoyable events. Field days provide a vital link between schools, professionals, and students—giving participants a range of activities and new experiences to broaden their minds about critical issues. They are flexible, cost effective means of educating students and adults outside of school. Research suggests that field days can make a lasting learning impact.

While there is no single model for planning field days, the best practices outlined in this guide provide a solid foundation for planning successful events.

1. Integrate marketing into your planning process.
2. Structure your field day around a single theme.
3. Assess your audience before the event.
4. Plan your setting for effective education.
5. Use experiential teaching methods.
6. Develop and implement program evaluation.

Whether starting a new event or updating an existing one, you may not be able to integrate them all at once. Adopting the Best Practices for Field Days may take a few years. Yet, you will build a more successful event by adhering to implications for organizing and presenting these events, and helping participants integrate the key messages into their lives.

Best of luck! Best of luck using the tools presented in this guidebook. Best of luck designing an enjoyable field day that communicates a vital message. Best of luck motivating students to learn from their own experience and apply knowledge gained. Best of luck linking the lessons they learned into their every day actions. Through your investments in successful field days, participants will create memories that enrich their lives, and gain valuable tools to concieve and improve their worlds.

University of Minnesota Extension
publication #EP-08208
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